New WHO child growth standards catch on

Since 2006, when the World Health Organization launched the new Child Growth Standards, over 140 countries have adopted them. Gozde Zorlu talks to Dr Mercedes de Onis about why these represent a new approach and why they are useful.

Q: What are the WHO Child Growth Standards?

A: These charts are a simple tool to assess whether children are growing and developing as they should. They can also be used to see whether efforts to reduce child mortality and disease are effective. The new standards demonstrate for the first time ever that children born in different regions of the world, when given the optimum start in life, have the potential to grow and develop to within the same range of height and weight for their age. The WHO standards are being widely used in public health and medicine and by governmental and health organizations for monitoring the well-being of children. The standards are also used for detecting children not growing to full capacity or those who are under- or overweight on average.

Q: What was the method of measuring children's growth before?

A: Before the Child Growth Standards were developed, WHO had been recommending the use of the US National Center for Health Statistics growth references since the late 1970s.

Q: How does today's growth standard differ from the growth references used before?

A: The new standard establishes breastfeeding as the biological norm and the breastfed infant as the standard for growth and development. Previous reference charts were based largely on the growth of infants fed formula milk. The WHO Child Growth Standards are global and for all children, in contrast to the previous international reference based on children from a single country – the United States of America (USA).

Q: What is the difference between a growth standard and a reference?

A: A growth reference provides a basis for making comparisons but deviations from the pattern it describes are not necessarily evidence of abnormal growth. A standard, on the other hand, embraces the notion of a norm or desirable target, a level that ought to be met, and therefore is a more effective guide to, and evaluator of, interventions to improve healthy development and growth. In 1993, WHO undertook a comprehensive review of these growth references. It concluded that they had biological and technical drawbacks and recommended a novel approach: a standard rather than a reference.

WHO

Dr Mercedes de Onis

Dr Mercedes de Onis is the coordinator of the Growth Assessment and Surveillance Unit at the World Health Organization (WHO). She led the WHO Multicentre Growth Reference Study from its inception to the establishment of the WHO Child Growth Standards. A 1981 graduate of the University of Medicine in Madrid, Spain, de Onis completed training 1984–1986 in public health and epidemiology at the School of Public Health, Johns Hopkins University. She then joined the US National Institutes of Health where she wrote her doctoral dissertation on fetal growth retardation.

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Q: How were the WHO growth standards developed?

A: The WHO growth standards are based on data from the WHO Multicentre Growth Reference Study (1997–2003), which applied a rigorous method that serves as a model of collaboration for conducting international research. The study provided a solid foundation for developing a standard because the sample was based on healthy children raised in environments that do not constrain growth. Furthermore, the mothers of the children selected for the construction of the standards engaged in fundamental health-promoting practices, namely breastfeeding and not smoking. Rigorous methods of data collection and standardized procedures across the six study sites (Brazil, Ghana, India, Norway, Oman and the USA) yielded very high-quality data. The generation of the standards followed state-of-the-art statistical methods.

Q: What is the connection between the WHO growth standards and infant and young child feeding practices?

A: The growth of an infant is strongly linked to how he or she is fed. The nutritional, immunological and growth benefits of breastfeeding have been proven, and so the breastfed infant is the natural standard for physiological growth. The adequacy of human milk to support not only healthy growth but cognitive development and long-term health provided a clear rationale for basing the WHO growth standards on breastfed infants. With the new growth standards, not only do paediatricians have a better tool to monitor the growth of breastfed infants but also health policies and public support for appropriate infant feeding practices will be strengthened.

Q: How many countries have adopted the WHO growth standards since 2006?

A: Over 140 countries had adopted them [by early March 2011] and are at different stages of their implementation. Similarly, many scientific bodies have endorsed the use of the WHO growth standards, while United Nations agencies use them as the common yardstick to assess and monitor child growth. The shift from the old US National Center for Health Statistics reference to the new WHO growth standards has provided a unique opportunity to promote best practices. For example, many countries have started measuring height and as-

sessing body mass index to monitor the double burden of malnutrition, that is, problems of undernutrition, like stunting, and problems of overweight and obesity.

Q: What are the challenges countries face in implementing the standards?

A: Rolling out new growth charts is a daunting task. It affects all levels of the country's health system and concerns not only clinicians and health practitioners but also nutritionists, dietitians, public health specialists, child and health advocates, parents/caregivers and researchers. Many countries have redesigned their child health records, upgraded their anthropometric equipment and retrained health staff to incorporate the WHO standards into their work. Some countries are working also to raise awareness on the importance and utility of monitoring child growth, and have redesigned their surveillance systems, so that they are more useful in decision-making. Each of these aspects has required a major effort of implementation and allocation of resources.

Q: How can the standards be used?

A: In addition to the traditional uses of growth curves, the development for the first time of what are known as "growth velocity standards" provides a set of unique tools for monitoring the rapid and changing rate of growth in early childhood and thus the early identification of children at risk of becoming under- or overweight. Likewise, the availability of indicators for body mass index and skinfold thickness are particularly useful for monitoring the growing epidemic of childhood obesity. Additionally, the development of what we term Windows of Achievement for six key motor development milestones provide a unique link between physical growth and motor development (sitting without support, hands-and-knees crawling, standing with assistance, walking with assistance, standing alone and walking alone).

Q: What does it mean when an infant drops below or slips above the lowest level of weight or height for their age? Or are the WHO growth standards a one-size that fits all?

A: It may not necessarily mean there is anything wrong with the child; it means that the paediatrician has to pay attention. For children up to about 10 years of age, the WHO study and many others have demonstrated that children have the potential to grow similarly on average provided they are given proper care, feeding and immunizations. There is no such thing as a "one size" in growth patterns, but a distribution of values (from 0 to 100 percentiles) that make it possible for genetically tall and short children to be part of the same healthy distribution.

Q: How do the growth standards help achieve the Millennium Development Goals (MDGs)?

A: The standards will play an important role at the national, regional and international levels in monitoring progress towards meeting the MDGs (1, 2, 3, 4 and 5) that depend on ensuring proper growth and development of children. Until now, an adequate measurement tool did not exist.

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Q: So are the WHO growth standards more useful in developing countries?

A: No, they are intended to monitor the growth of every child worldwide, regardless of ethnicity, socioeconomic status and type of feeding. Many developed countries are concerned about obesity in young children, for example, but have local growth curves that identify the problem only after a child has become obese. For such countries, the WHO standards are also a useful tool for identifying overweight and obesity before they become too difficult to prevent or control.

Q: What difference will the WHO growth standards make for the children themselves?

A: The WHO standards represent an important step towards achieving the right of every child to grow and be healthy. They provide sound scientific evidence that young children from different regions experience, on average, similar growth patterns when their health and nutrition needs are met. As such, they can also be used to assess compliance with the UN Convention on the Rights of the Child, which recognizes the duties and obligations to children that cannot be met without attention to normal human development. Derived from a worldwide sample of children, the WHO Growth Standards show that environmental differences rather than genetics are the principal determinants of disparities in physical growth.

Q: How will the WHO growth standards support implementation of the WHO Global Strategy on Infant and Young Child Feeding?

A: The standards are a crucial new tool for monitoring infant and child growth and for evaluating efforts to implement the global strategy. As such, they provide a means to advocate for the protection, promotion and support of breastfeeding and adequate complementary feeding. Full implementation of the objectives of the global strategy will enable supportive environments for mothers to breastfeed their children. The WHO growth standards provide the necessary measurement and evaluation tool for parents, caregivers, health practitioners, policy-makers and advocates with which to monitor healthy growth, ensure timely screening and treatment and recommend and follow appropriate nutritional practices. ■