Diabetes increases over time in children but adults account for most new cases in China

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Although China remains one of the countries with the lowest incidence of type 1 diabetes globally, a study published by *The BMJ* today shows that there has been a rapid increase in the number of new cases

(incidence) of the condition in under 15s in the past two decades.

The findings also show that most new cases of type 1 diabetes in China are diagnosed in adults, leading to calls for more resources to improve care of the condition in adulthood.

Type 1 diabetes most often develops in children, but it can occur at any age. Available data shows that China had one of the lowest incidences of type 1 diabetes in children during 1985-94. However, since then, rates of type 1 diabetes in children have been increasing worldwide. Little is also known about its incidence in adults.

So a research group led by Jianping Weng at The Third Affiliated Hospital of Sun Yat-sen University in Guangzhou, set out to investigate the incidence of type 1 diabetes in all age groups in China during 2010-13.

They identified new cases diagnosed between 2010 and 2013 in 13 areas across China. Using the 2010 Chinese census and annual government reports on natural population growth, their study population covered more than 133 million people, around 10% of the Chinese population, including 6% of those aged less than 15 years.

They identified 5,018 newly diagnosed cases of type 1 diabetes, of which the majority (65.3%) were in adults aged more than 20 years.

The estimated incidence of type 1 diabetes in both children and adults in China were among the lowest reported in the world (1.01 new cases per 100,000 person years for all ages, and 1.93 new cases per 100,000 person years for ages 0-14 years).

Nevertheless, the researchers estimate that more than 13,000 new cases of type 1 diabetes occur every year in China, with more than 9,000 in

people aged 15 or more.

This finding, they say, "highlights the importance of the care of people with adult onset type 1 diabetes and that more resources should be provided to improve the care of this age group."

The results also showed that the incidence of type 1 diabetes among children aged 0-14 years was strongly correlated with latitude, with higher rates in the north and lower in the south, but such correlation was not seen in those aged 15 or more.

The authors cannot be sure what genetic or environmental factors - or a combination of both - could be responsible for this.

Although the authors took steps to account for several factors that may have influenced the results, they point to some study limitations. For example, the higher proportion of urban populations than that of the whole nation, which hindered full study of the link between type 1 diabetes and environmental factors, and the possibility of missing cases or misdiagnosis.

Nonetheless, the authors say this is the first nationwide study to provide incidence rates for type 1 diabetes in all age groups, covering a vast geographical area. "These results should not only update the global map of type 1 diabetes in childhood, but also fill in the blank about the incidence of adult onset type 1 diabetes," they write.

More information: Incidence of type 1 diabetes in China, 2010-13: population based study, *BMJ* (2018). www.bmj.com/content/360/bmj.j5295