

Incidence trends for childhood type 1 diabetes in India

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ABSTRACT

It is estimated that India is housing about 97,700 children with type 1 diabetes mellitus (T1DM). A study of 30 children with insulin-dependent diabetes with age at diagnosis ≤ 15 years, conducted in 1992, reported a prevalence of 0.26/1000 children. The peak age at diagnosis was 12 years. This was the first population-based study of prevalence of insulin-dependent diabetes in South India and shows that insulin-dependent diabetes is not rare and is higher than that reported from many other Asian countries. The Karnataka state T1DM registry listed an incidence of 3.7/100,000 in boys and 4.0/100,000 in girls over 13 years of data collection. At Karnal, in Haryana, the prevalence of T1DM is 26.6/100,000 in urban and 4.27/100,000 in rural areas of the district, leading to an average prevalence of 10.20/100,000 population. Karnal city has a relatively high prevalence of T1DM (31.9/100,000). An estimated 18,000 children under the age of 15 were newly diagnosed for T1DM in the year 2011 in the above-mentioned regions. The prevalence of T1DM in children is 111,500 according to a World Health Organization report of the International Diabetes Federation for the South-East Asian Region.

Key words: Type 1 diabetes mellitus, India, incidence and prevalence

INTRODUCTION

Type 1 diabetes mellitus (T1DM) is one of the most common pediatric endocrine illnesses. Of these, over half are living in developing nations, with India being home to an estimated 97,700 children with T1DM.^[1] Data were collected from hospital-based studies in 1990 from India suggest that young diabetics (onset of diabetes before the age of 15 years) constitute about 1%–4% of the total diabetic population.^[2] India had reported a prevalence of juvenile diabetes (onset below 15 years) $<1\%$ to 3.61%, between 1964 and 1989.^[3–10]

Type 1 diabetes mellitus accounts for only about 5%–10% of all cases of diabetes. The incidence of T1DM continues

to increase worldwide, and it has serious short-term and long-term implications. The incidences of T1DM is rising by 3%/year and at present more than 90,000 children are affected in Europe alone. Nearly 75,000 new children are diagnosed to have T1DM every year. This increase in the incidence along with enhanced access to insulin and better survival rates will lead to a higher prevalence in the near future. No definite data are available in India and the country also lacks a diabetes registry.

A study of 30 children with insulin-dependent diabetes with age at diagnosis ≤ 15 years, conducted in 1992, reported a prevalence of 0.26/1000 children. The peak age at diagnosis was 12 years. This was the first population-based study of prevalence of insulin-dependent diabetes in South India and shows that insulin-dependent diabetes is not rare and is higher than that reported from many other Asian countries.^[11]

The Karnataka state T1DM registry listed an incidence of 3.7/100,000 in boys and 4.0/100,000 in girls over 13 years of data collection.^[12] At Karnal, in Haryana, the prevalence of T1DM is 26.6/100,000 in urban and 4.27/100,000 in

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rural areas of the district, leading to an average prevalence of 10.20/100,000 population. Karnal city has a relatively high prevalence of T1DM (31.9/100,000).^[13] More than one percent of Indian children are diabetic, according to a sample survey conducted by the government in schools in three cities. Under the National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke, a study was conducted on 92,047 school children in Nainital (Uttarakhand), Ratlam (Madhya Pradesh), and Bhilwara (Rajasthan). According to this study, 1,351 (1.467%) students were suspected to be diabetic. An estimated 18,000 children under the age of 15 were newly diagnosed for T1DM in the year 2011 in the above-mentioned regions. The prevalence of T1DM in children is 1,11,500 according to a World Health Organization report of the International Diabetes Federation for the South-East Asian Region. India is one of the 11 countries mentioned in this report.

SUMMARY

The increase in the incidence along with enhanced access to insulin and better survival rates will lead to a higher prevalence in the near future.

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