

Type 1 diabetes mellitus in Bhutan

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ABSTRACT

Bhutan is a South Asian country with a total population of 733,643. Bhutan has a very low burden of type 1 diabetes mellitus (T1DM), while that of type 2 diabetes mellitus is very high and increasing at alarming rates. Bhutan has a notably high proportion of over-weight and obese population. First case of T1DM was detected in 2006 and all the detected patients are in the age range of 14–15 years. The challenges in T1DM management include lack of knowledge among health care workers and patients, and limited access to health care services because of the difficult terrain.

Key words: Bhutan, diabetes, type 1 diabetes mellitus

INTRODUCTION

The total population of Bhutan is 733,643. 27.3% of this is in the age group of 0–14 years, and 20% in the age group of 15–24 years. The health expenditure share in the country in 2011 was 4.1%. The life expectancy at birth in Bhutan has increased from 66.1 in 1994 to 68.9 in 2010. The crude birth rate (births per 1000 population) has decreased consistently from 39.9 in 1994 to 17.9 in 2012, and crude death rate (deaths per 1000 population) from 9.0 in 1994 to 6.2 in 2012. There has been a consistent decrease in the under-five mortality rate (deaths per 1000 live births) from 96.9 in 1994 to 37.3 in 2012, in infant mortality rate (deaths per 1000 live births) from 70.7 in 1994 to 30.0 in 2012, and in maternal mortality ratio (deaths per 100,000 live births) from 380 in 1994 to 86 in 2012. The sex ratio at birth (males per 100 females) has remained almost the same from 105 in 1994 to 104 in 2012.^[1]

Bhutan has a very low burden of type 1 diabetes mellitus (T1DM), while that of type 2 diabetes mellitus (T2DM)

is very high and increasing at alarming rates. There have been different figures, quoted by different studies, regarding the T1DM prevalence in Bhutan, in past. WHO has also conducted a survey and the results are expected to be published shortly. Bhutan, despite being a hilly country where people are forced to undergo high daily physical stress, has a notably high proportion of over-weight and obese population. The steps survey in 2007 reported hypertension in 26% of the population, T2DM in 8.2%, impaired fasting glucose in 21.6%, overweight in 52.4%, obesity in 12.1%, and hypertriglyceridemia in 21%, with 5.6% daily smokers, and 82.9% not engaging in vigorous physical activity. The incidence of diabetes per 10,000 population has increased consistently from 38 in 2009 to 80 in 2013.^[2]

The dietary habits of people in Bhutan include suja (salted butter tea) in 56.7% of the population, Ezay (salted chili pickle) in 55.5%, dry meat in 25.1%, whereas two-thirds of the population consume fruits with <5 servings per day.

First case of T1DM was detected in 2006 in an 18-month female who was referred as a case of pneumonia. Thereafter, three more cases were detected who presented as severe dehydration, coma and pneumonia, of which the child with diabetic coma succumbed to the disease. Three cases of T1DM have been detected in adolescents so far. All the detected patients were in the age range of 14–15 years. Of these cases, one patient has delivered a baby at the age of 18 years and is currently on treatment and doing well.

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The challenges in T1DM management include lack of knowledge among health care workers and patients, and limited access to health care services because of the difficult terrain. The actions required for meeting these challenges are training and education of health care workers with a strong awareness on the burden of diabetes, improving infrastructure and equipment, patient education, ensuring quality of treatment, and establishing a diabetes registry.^[3]

SUMMARY

The tentative strategies for the management of T1DM include sensitizing the government and undertaking a scientific study about salt consumption; reducing salt intake through media publicity and public health campaigns, establishing school health campaigns to

emphasize salt reduction, and by sensitizing the food Industry.

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