

# HYPERGLYCEMIA, GLUCOSE INTOLERANCE, HYPERTENSION AND SOCIOECONOMIC POSITION IN EASTERN NEPAL

KD Mehta<sup>1</sup>, P Karki<sup>2</sup>, M Lamsal<sup>1</sup>, IS Paudel<sup>3</sup>, S Majhi<sup>1</sup>, BKL Das<sup>1</sup>,  
S Sharma<sup>2</sup>, N Jha<sup>3</sup> and N Baral<sup>1</sup>

Departments of <sup>1</sup>Biochemistry, <sup>2</sup>Internal Medicine, <sup>3</sup>Community Medicine,  
BP Koirala Institute of Health Sciences, Dharan, Nepal

**Abstract.** The present study was undertaken to evaluate differences between urban and rural Nepali populations in terms of hyperglycemia, socioeconomic position (SEP) and hypertension, through a community based survey in Sunsari District, eastern Nepal. Blood glucose levels were measured in participants ( $N=2,006$ )  $\geq 30$  years old from urban and rural communities and were classified according to WHO criteria (1998) into normoglycemia (NGY), impaired fasting glucose (IFG), impaired glucose tolerance (IGT) and hyperglycemia (HGY). SEP was assessed by structured health interview along with anthropometric measurements and behavioral variables. Hypertension was classified per Joint National Committee (JNC-VII) criteria. Ten point three percent and 11.9% of subjects in this survey (13.3% urban and 11.0% rural) gave a family history and personal history of diabetes mellitus, respectively. Of urban participants ( $n=736$ ) with no history of diabetes 70 (9.5%) had HGY and 143 (19.4%) had glucose intolerance (IFG and IGT). Of rural participants ( $n=1,270$ ) 114 (9.0%) had HGY and 176 (13.9%) had glucose intolerance. There was an increasing trend in numbers of cases of hyperglycemia and intolerance with increasing age ( $\chi^2$  198.2,  $p<0.001$ ), body mass index (BMI) ( $\chi^2$  35.1,  $p<0.001$ ), SEP ( $\chi^2$  48.5,  $p<0.001$ ) and hypertension ( $\chi^2$  130.6,  $p<0.001$ ). Rural participants had a lower odds ratio [0.706; 95% confidence interval (CI) 0.455-1.096] of having hyperglycemia than urban participants. Individuals with medium and higher SEP had a lower odds ratio (0.878; CI 0.543-1.868) and higher odds ratio (1.405; CI 0.798-2.474), respectively, compared to individuals with lower SEP of having HGY. Both urban and rural populations are at risk for hyperglycemia and glucose intolerance. Individuals having a medium SEP had lower risk of diabetes mellitus than individuals from lower and higher SEP.

**Keywords:** hyperglycemia, glucose intolerance, socioeconomic position, hypertension, eastern Nepal

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Correspondence: Prof Nirmal Baral, Department of Biochemistry, BP Koirala Institute of Health Sciences, Dharan, Nepal.  
Tel: 00977-25-525555 ext 3255/2461; Fax: 00977-25-520251  
E-mail: nirmalbaral@yahoo.com