New BMI thresholds suggested for ethnic minorities to reduce obesity and diabetes risk

30 June 2014

	White	South Asian (Pakistani)	South Asian (Indian)	Chinese	Black
Men					
BMI (kg/m²)	30	21.5	22	26	26
Waist (cm/inches)	102/40	78/30.7	80/31.5	88/34.6	88/34.6
Women					
BMI (kg/m²)	30	21.6	22.3	24	26
Waist (cm/inches)	88/34.6	68/26.7	70/27.5	74/29	79/31

Fig 1: Age-adjusted body mass index and waist circumference cut-offs equivalent to conventional obesity thresholds by ethnic group and sex.

New BMI thresholds suggested for ethnic minorities to recognise increased obesity and diabetes risk, say researchers.

Health researchers have suggested new body mass index (BMI) thresholds for defining overweight and obese individuals in ethnic communities.

Being overweight or obese increases the risk diabetes. Presently, a BMI of 30kg/m2 or above is defined as obese but South Asian, Chinese and Black populations have an equivalent risk of diabetes at lower BMIs than White people.

The National Institute of Clinical Excellence has previously issued guidance on the subject to health professionals but recommended that further studies be undertaken to define the thresholds for ethnic minorities.

In an attempt to define new thresholds, researchers from the University of Glasgow analysed data on 490,288 people who participated in UK Biobank.

They found that the rate of diabetes observed among Whites classified as obese with a BMI of at least 30, was matched by South Asians with a BMI of at least 22, Chinese with a BMI at least 24 and Black people with a BMI at least 26. This finding supports the use of lower BMIs to define obesity in these differing groups.

The study also showed the differences between South Asian sub-groups were small. The new BMI cut-offs were 21.5 in Pakistani men compared with 22.0 in Indian men, and 21.6 in Pakistani women compared with 22.3 in Indian men. Therefore, it would seem reasonable to apply the same cut-offs across all South Asian communities.

The results are published online ahead of print in the journal *Diabetes Care*.

Professor Jill Pell, Director of the Institute of Health and Wellbeing, said: "This study was only possible because of the strengths of UK Biobank. It is a very large study with sufficient numbers of participants from all of the main ethnic groups. Therefore, we were able to produce separate cut-offs for each ethnic group.

"This study confirms that we need to apply different thresholds for obesity interventions for different ethnic groups. If not, we are potentially subjecting non-white groups to discrimination by requiring a higher level of risk before we take action.

"Furthermore, a blanket figure for all non-white

groups is inappropriate. We need to apply different thresholds for South Asian, Black and Chinese individuals."

Professor Naveed Sattar, of the Institute of Cardiovascular and Medical Sciences, said: "Further research is needed to understand why South Asians get diabetes at much lower BMIs but in the meantime this study underlines the need for tailored advice for different ethnic groups."

Uduakobong Efanga Ntuk, a PhD student who conducted a large part of the research, said: "Obesity is the main cause of the worldwide increase in diabetes. Intervening at lower obesity cut-points in people from non-white descent could save many lives.

"Diabetes prevention programs need to be ethnic specific. People from South Asian, Chinese and Black descent need to be made aware that they are at a higher risk of diabetes. By adopting a healthy lifestyle including physical activity and a healthy diet, they can significantly reduce their risk."

Provided by University of Glasgow