Study links large waist size to higher diabetes rates among Americans

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A higher rate of diabetes seen among adult Americans when compared to peers in England is explained primarily by a larger waist size rather than conventional risk factors such as obesity, according to a new study by researchers from the RAND Corporation, University College London and the Institute for Fiscal Studies in London.

Researchers say the findings offer more evidence that accumulating fat around the mid-section poses a health risk and suggests that studies of diabetes risk should emphasize waist size along with traditional risk factors.

"Americans carry more fat around their middle sections than the English, and that was the single factor that explained most of the higher rate of diabetes seen in the United States, especially among American women," said James P. Smith, one of the study's author and corporate chair of economics at RAND, a nonprofit research organization. "Waist size is the missing new risk factor we should be studying."

Other authors of the study are James Banks of the Institute for Fiscal Studies, and Meena Kumari and Paolo Zaninotto of the Department of Epidemiology at University College London. The findings were published online by the Journal of Epidemiology and Community Health .

Researchers say that Americans middle-aged and older are significantly more likely to suffer from diabetes compared to their peers in England

despite a similar standard of living. About 16 percent of American men report having diabetes as compared to 11 percent of English men. About 14 percent of American women have diabetes, compared to 7 percent among English women.

An earlier study co-authored by Banks and Smith demonstrated that middle-aged Americans are less healthy than their English counterparts, although medical spending in the United States is more than twice as high as it is in the United Kingdom.

Analyzing studies about the health and lifestyles of large numbers people from the United States and England, researchers found no association between higher diabetes rates in the United States based upon conventional risk factors such as age, smoking, socio-economic status or body mass index, the commonly used ratio of height and weight that is used to measure obesity and over-weight.

The conventional risk factors for diabetes were similar among both the American and English populations. Americans had slightly higher scores on body mass index and were a little older. The English were less educated and more likely to have smoked.

However, American men had waists that averaged 3 centimeters larger than their English peers and the waists of American women were 5 centimeters bigger than English women. American women were significantly more likely to face higher risk because of their waist size when compared to English women (69 percent to 56 percent), while American men had only a slightly higher waist risk than their English peers.

The higher waist size of Americans posed more risk compared to their English peers across most body mass index categories. For example, among women with normal weight, 41 percent of American women

were categorized as having high waist risk compared to 9 percent of English women.

The study concludes that waist circumference explains a substantial proportion of the higher diabetes rate in America for men and virtually all the higher rate seen among women.

Researchers say there may be many reasons why Americans have larger waists than their English peers. It may be caused by different rates of physical activities through exercise or daily activities, diet differences or perhaps other social and environmental factors such as stress that occur in the United States.

Researchers say that future research needs to address the different mechanisms that may be responsible for this association. For example, there is evidence that fat in the midsection has a different metabolism than fat carried elsewhere on the torso.

Researchers say that past evidence has shown that waist circumference is a better marker for visceral fat than other measurements. Previous studies have shown that fat cells located in a person's midsection have specific dysfunction that may be involved in the mechanisms that lead to diabetes.

Provided by RAND Corporation