

In Qatar, diabetes is high risk factor for heart attack and stroke

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(Medical Xpress)—Diabetes tops the list of preventable conditions and risk factors associated with heart attack and stroke in Qatar, according to a study appearing in the inaugural issue of the *Journal of Local and Global Health Perspectives*.

The article, "Prevention during the epidemiologic shift to chronic illness: a [case control study](#) of [risk factors](#) associated with cardiovascular disease in Qatar," presents the results of a study conducted at Hamad Medical Corporation (HMC) in Qatar from June 2006 to June 2008. It was led by Department of [Public Health](#) researchers at Weill Cornell [Medical College](#) in New York and Qatar, as well as physicians at HMC. The work was supported by the Qatar Foundation, the Weill Cornell Clinical and Translational Science Center and the Biostatistics, Epidemiology and Biomathematics Research core of Weill Cornell Medical College in Qatar.

"Cardiovascular diseases have for some time been the leading cause of death worldwide," says principal investigator and senior author Dr. Alvin I. Mushlin, professor and chairman of the Department of Public Health at Weill Cornell Medical College. "But high income countries in the Arabian Gulf region, such as Qatar, have experienced an especially dramatic increase in cardiovascular disease and other non-communicable and chronic diseases, driven in part by major changes in population and [lifestyle factors](#) in recent years. Our study tried to estimate the association between five preventable risk factors and the development of heart attack and stroke." The five risk factors studied were diabetes,

hypertension (high blood pressure), dyslipidemia (high levels of cholesterol and other [blood fats](#)), smoking, and obesity.

The study recruited patients admitted to HMC with heart attack or stroke. Cases included both Qatari nationals and non-Qatari expatriates. Controls were randomly selected from unrelated inpatient and outpatient departments. Data collected included socio-demographic information, medical and family history, lifestyle characteristics and depression assessments.

In Qatar today, expatriates and migrant workers account for more than 70 percent of the population. Thus, the Qatari nationals in the study were also studied as a sub-group to determine if they have characteristics related to the development of cardiovascular disease that may distinguish them from others living in the country.

"Our study had some interesting findings," says lead author Dr. Paul J. Christos, lecturer in Public Health in the Division of Biostatistics and Epidemiology at Weill Cornell. "More than two-thirds of the heart attack patients and half of the stroke patients were younger than 55 years; some were younger than 40. Men made up the majority of cases. Approximately 40 percent of participants were overweight and an additional 30 percent were obese."

"We found that diabetes increased the risk by over four-fold and was the strongest preventable risk factor for both heart attack and stroke," Dr. Christos adds. "High blood pressure was the second major preventable risk factor for stroke and an important factor for heart attack. Low amounts of physical activity increased the risk of both heart attack and stroke by approximately 80 percent, while smoking increased the risk of heart attack two-fold. For the sub-group of Qatari nationals who took part in the study, diabetes, [high blood pressure](#), high cholesterol and smoking were also identified as potential preventable risk factors for

[cardiovascular disease](#). Additionally, these factors seemed to increase heart attack and stroke risk to a greater extent among the Qatari natives as compared to other groups."

"While the risk factors for [heart attack](#) and stroke are the same in Qatar as in the rest of the world, the magnitude of these factors in Qatar suggests that the effectiveness of altering these largely preventable risk factors is even more likely to have a significant impact," says Weill Cornell's Dr. Mushlin. "Designing population-level prevention interventions with awareness campaigns and supporting a culture of preventive health are critical for both Qatari nationals and the expatriate population."

"Diabetes is a very expensive disease that carries multiple risk factors for other serious health problems, and a considerable fraction of people with diabetes may not be aware of their diagnosis," adds study co-author Dr. Laith J. Abu-Raddad, associate professor of public health at Weill Cornell Medical College in Qatar and director of the Biostatistics, Epidemiology and Biomathematics Research Core. "We need to understand the precise scale and nature of the problem. Our study indicates a need for preventive measures as well as a large-scale nationally representative epidemiologic study on levels of diabetes and pre-diabetes in the population."

"Our study also reinforces the likelihood that special genetic factors may be increasing the severity of diabetes among Qataris," says Dr. Mushlin. "In collaboration with Dr. Ronald Crystal, we and other investigators at Weill Cornell Medical College in New York and Qatar have begun two grant projects sponsored by the Qatari National Research Fund to study genetic variability and susceptibility to type 2 diabetes in the Qatari population and the genetics of risk for retinopathy among Qataris with type 2 diabetes."

Provided by Weill Cornell Medical College

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