



PRESS RELEASE

**WCMC-Q Physician Explores the Social and Health  
Implications of Cousin Marriage**

**Doha, November 18, 2009**—Ahmad Teebi, MD, professor of pediatrics and genetic medicine at WCMC-Q and an internationally renowned expert on genetics and genetic disorders, discussed cousin marriage at a public lecture at Weill Cornell Medical College in Qatar. His presentation highlighted the prevalence of cousin marriage around the world and the need to encourage understanding of the practice as well as related health concerns.

“Cousin marriage is legal in 26 of the United States and is not prohibited anywhere in Europe,” Dr. Teebi said. “There are genetic implications to consider with first-cousin marriage, but it is more common than people think. We need to understand the many reasons people consider this an option so that we can be realistic about it.”

**Why is Cousin Marriage Practiced?**

It is estimated that up to 20 percent of marriages worldwide today are between first cousins, Dr. Teebi said. Reasons for the practice include geographical isolation, social or psychological support, convenience and tradition.

Another big reason for the practice involves financial obligations, Dr. Teebi explained. In many parts of the world, a dowry is an integral part of the wedding process and there’s often a substantial amount of money or property involved. Those who cannot afford a sizeable dowry may choose to marry within the family to relieve the tremendous cost and make marriage possible, he said. On the other hand, some families have a tremendous inheritance and are reluctant to spread the resources outside of the family—in this case, cousin marriage is favorable to them.

The practice is explored by some religious texts and in most branches of worship is minimally regulated if at all. No matter the circumstances, however, it’s important to understand the genetics related to the decision to reproduce within a cousin marriage, Dr. Teebi said.

**Genetic and Health Implications**

“In the case of first-cousin marriage, a couple’s chance of having a baby with a birth defect rises from 3 percent, which is the non-cousin marriage rate, to between 4.5 and 6 percent,” Dr. Teebi said. “In the case of second-cousin marriages, the risk increases only slightly above that of the general population.”

Dr. Teebi explained basic genetic principles and explored the concept of consanguinity, the scientific term for reproduction among couples who are second cousins or closer, or within an isolated population.

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*(cont.)*

Genes exist in copy pairs and some diseases require mutation on both copies of a gene pair in order to occur in an individual, Dr. Teebi explained. These diseases are known as autosomal recessive disorders and include maladies such as cystic fibrosis, sickle-cell disease, spinal muscular atrophy and others. If two unaffected people carry a single copy of a mutated gene for an autosomal recessive disease, they have a 25 percent chance of spreading the disease to their offspring. In the case of cousin marriage, the frequency of autosomal recessive disorders increases, Dr. Teebi said.

“The frequency of a normally-rare disease can increase among populations that marry within the family,” Dr. Teebi said. “This is known as founder effect and can be observed in geographically isolated areas and among populations that practice intermarriage based on circumstances, customs, beliefs or economics. We also see an increase in the number of miscarriages as a result of this practice.”

### **Take-home message**

In the end, Dr. Teebi said that the trends in cousin marriages show a decline in the practice among people in Jordan, Lebanon, Morocco, Mauritania and the Palestinian population in Israel. He said trends show the practice increasing in Qatar, the United Arab Emirates and Yemen.

“Avoiding cousin marriage will result in a real reduction of the frequency of birth defects and genetic diseases in general,” Dr. Teebi said. “But if marriage between a close relative is unavoidable, I encourage premarital genetic counselling. This may include carrier testing and would help the couple and their doctor create a plan for prevention.”

*(Ends)*

## **NOTES TO EDITORS**

**Established in partnership with Qatar Foundation, WCMC-Q** is part of Weill Cornell Medical College (WCMC) of Cornell University, the first US institution to offer its MD degree overseas. WCMC-Q shares the triple mission of WCMC: a dedication to excellence in education, patient care, and biomedical research.

WCMC-Q offers an innovative program of pre-medical and medical studies leading to the Cornell University MD degree. Teaching is by Cornell and Weill Cornell faculty, including physicians at Hamad Medical Corporation (HMC) who hold Weill Cornell appointments.

Faculty and staff of WCMC-Q and WCMC are building the research capacity of Qatar in partnership with Qatar Foundation, HMC, the Ministry of Health and other organizations, with a focus on high quality research in genetic and molecular medicine, women’s and children’s health, gene therapy, and vaccine development.

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### **About Qatar Foundation**

Founded in 1995 by decree of His Highness Sheikh Hamad Bin Khalifa Al Thani, Emir of Qatar, Qatar Foundation is a non-profit organization focusing on education, scientific research and community development. Under Qatar Foundation's umbrella are Education City, which comprises elite universities, several academic and training programmes and Qatar Science and Technology Park, which boasts more than 21 world class companies involved in scientific research and development.

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