



Unlocking Nutrition's Cancer-Prevention Potential

Reema Favez Tayyem has diverse research interests, but her scientific pursuits have one common goal—a desire to uncover the hidden health benefits of nutrition. Her work has ranged from how to improve the nutritional qualities of mashrouh bread to quantifying the cancer-fighting ability of curcumin, the yellow pigment found in the curry and turmeric spices. To do so, she looks to see what her fellow Jordanians eat and what diseases they get.

Nutritional Counseling

Reema's focus on Jordanian residents makes sense. It is a way to correlate existing data to help people in her local communities live healthier lives. For example, Reema translated her work into general nutritional education campaigns as well as nutritional counseling specifically for renal disease patients. In fact, her Ph.D. research led to a patent for the preparation of a medicinal supplement of arginine, an amino acid that helps relax blood vessels, which can allow patients with certain heart problems to exercise more easily.

But Reema's regional focus is also the result of having few existing resources to support scientific research at her disposal. Reema did not have a chance to study abroad during her post-graduate work at the University of Jordan—an experience she hoped would enable her to use more advanced research equipment and techniques that might foster new research ideas.

Developing New Ways

When she heard of the UNESCO-L'Oréal Fellowship, she applied but did not expect to win the award. "I knew it would be very competitive with women from all over the world, so I was pleasantly surprised to win," she says.

In 2006, Reema traveled to the University of California at San Diego's (UCSD) Nutrition Research Laboratory at the Moores Cancer Center, intent on making each moment of her six-month stay count because the mother of two didn't know if she would have another opportunity to travel. "I learned as much in those six months as I did in four years of my Ph.D.," she says. While there, she strengthened her population-based study approach by developing new ways of analyzing the curcumin content in both turmeric itself as well as in a patient's blood and urine.

Forging Collaborations

Interestingly, she says, she thought visiting the United States would give her access to information she didn't have before. "I realized that while I did have access to equipment, I didn't get any information that wasn't already available on the Internet or in books. But I did get more experience and self-confidence," she says.

Reema says the biggest lesson was learning how to forge productive collaborations with other university researchers. "I feel more competitive with my male colleagues who often have greater opportunities to see how international collaborations can form," she says.

Since her fellowship, Reema's publication list has grown by leaps and bounds as a result of collaborations. "When I went to UCSD, I was an assistant professor with only two papers published. I now have 12 papers published or in press and have been promoted to associate professor," she says.

Securing Her Future

That confidence has helped her make difficult career decisions to balance her family responsibilities and work loads. "Many women have trouble moving forward after they receive their Ph.D. degree because the most critical demands of family and career occur during this same window of time," she says. For example, only a few women proceed to be full professors at Jordanian universities. To better ensure her success, Reema had taken on many roles—such as head of the nutrition and dietetics department—to secure her academic future. Reema says her decision to step down from that administrative position has helped her focus on her research and find a better balance for her family.



The scale of Reema's work has increased too. She is conducting clinical trials of curcumin's cancer-prevention ability. She started a large study of 800 subjects with a mixture of different ethnic backgrounds to measure curcumin intake among Jordanian people to see if the amount that people eat is linked to whether they get cancer or not.

Reema plans to continue studying how nutrition may prevent cancer. She recently got funding to study the dietary and lifestyle risk factors for a type of intestinal cancer among Jordanians. Reema hopes one day to acquire the instruments that will help use her population studies of disease risk to develop disease treatments. Until then, her work is a reminder that science is driven by ideas—not technology.

"I feel more competitive with my male colleagues."