

An Ounce of Prevention

How family, loss and the Cultural Revolution shaped one physician's career. By DR. XIAO OU SHU

FIFTEEN YEARS AGO I stepped off a plane from China and into the largest and busiest city in the United States with a scholarship to Columbia University. I had arrived ready to pursue graduate studies in epidemiology but not before serious debate over whether I should practice medicine or pursue research.

I had grown up in China surrounded by a rich and diverse legacy of doctors. My paternal grandfather had practiced traditional Chinese medicine. A kindly old man with a long white beard, he ran a pharmacy with walls full of small drawers filled with herbs and was well respected by the people in his small village, whom he treated with herbs and acupuncture. When I last saw him, I was 5 years old. Probably suffering from a neurological disease, his hand shook so uncontrollably at the dinner table that he was hardly able to pick up any food with his slim chopsticks. In the end, he was unable to cure his own disease and died three years later, which is when I realized that such traditional medicine has its limitations.

My maternal grandfather came from a wealthy family and received formal training in Western medicine from a prestigious medical school. Through an arranged marriage, he wed a beautiful but uneducated girl from a small town. My mother was their oldest child. My grandfather, however, was often absent and did not love my grandmother. He eventually left her and their children at the family compound and married one of his nurses. (Both he and his second wife came down with tuberculosis and died a couple of years later.)

My mother was 12 when her father died. After seeing the suffering of her uneducated mother, she was determined to get a good education and follow her father into the world of medicine. Her wealthy uncles provided a good standard of living, but they refused to support my mother's dream of becoming a doctor because, like most men at the time, they were heavily influenced by the Confucian philosophy that "the woman with no talent is the one who has merit." Unhappy with her comfortable but stilted lifestyle, my mother ran away at the age of 14 to attend a free boarding school for teachers, the only option for education available to her.

Although she never became a doctor, my mother did become the first female teacher in her county and instilled her dreams in my sisters and me. Growing up hearing stories of our grandfathers, we, too, wanted to join the world of heroic white-clad doctors. Everything changed, however, in 1966 when the Cultural Revolution began in China. Most universities no longer admitted students based on academic merit, and students like my two older sisters were removed from high schools or universities and sent off for "re-education" as farmers and workers. For my sisters and me, the door to higher education was doubly closed because my parents came from wealthy families and, thus, we were particularly targeted for re-education.

At the age of 16, I was sent to the countryside for re-education, as my sisters had been. Neither of them ever had the chance to go back and finish school, but I got lucky. One year after I left home, the Cultural Rev-



olution ended and I was able to pursue the family dream of entering medicine. Facing loads of work I had missed, I struggled for two years to catch up before finally passing the very competitive university entrance exams. The day I received my acceptance letter from Shanghai Medical University was one of the happiest days of my life. I was finally realizing both my dream and my mother's.

However, not long afterward I felt like I had been dropped from a skyscraper when I learned that I had been assigned to major in preventive medicine, not clinical medicine as I had expected. I will always remember the first day we met our professors when, still disappointed, I sat with a crowd of other students in a big lecture room. As we shuffled our papers, a professor, one of the most prominent epidemiologists in the country, told us, "The best doctor is the one who treats people before they get a disease." At the time I thought he was only comforting

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disappointed students like me. I was determined to switch to clinical practice after completing my medical education.

It was not until my internship in my fourth year that my desire to practice medicine started to change. Sitting in a hot, crowded clinic one day, I realized I was seeing patients over and over again with the same avoidable diseases, such as gastritis, hypertension and diabetes. Frustrated with constantly having to treat these conditions, I remembered what my professor had told us on that first day and started thinking how much better it would be to prevent these diseases instead of treating them again and again.

During my final year of medical training, with the idea of switching majors still lurking in my mind, I took courses such as epidemiology, biostatistics, environmental health, and childhood nutrition and development. After learning how the cause of cholera was discovered and that cigarette smoking was linked to lung cancer, I was hooked on epidemiology. Epidemiology appealed to the part of me that had been so frustrated by my experience in the clinic; out of its focus on finding causative answers, doctors might prevent patients from getting sick in the first place. I also found that I loved the detective nature of epidemiology; everything was a puzzle with solutions to be found by good observation, critical analysis and well-planned experiments.

After receiving my medical degree, I entered

a graduate program in public health and majored in cancer epidemiology. I conducted my first epidemiological study on childhood leukemia and had the opportunity to visit the National Cancer Institute (NCI) in Maryland. Working with several world-class cancer epidemiologists at NCI, I published my first paper in the journal *Lancet*, linking chloramphenicol, a drug commonly used to treat infectious disease in developing countries at that time, to a risk of childhood leukemia. This exciting experience was the spark that started my research career, and three years after obtaining my master's degree in public health, I arrived in New York to start on a doctoral degree in epidemiology. I received the Anna C. Celman Award for Excellence in Epidemiology upon graduating.

The experience of having lived in two countries with immensely different lifestyles and cultures gave me a deep appreciation for how those differences could affect health. Witnessing a rapid increase of cancers, diabetes and cardiovascular disease among the Chinese as their lifestyles became Westernized led me to investigate the factors that are part of a traditional Chinese lifestyle—such factors as dietary soy intake, ginseng use and Tai Chi, commonly used in China to help prevent these Western diseases. My research has naturally extended to the investigation of how genetic susceptibility contributes to cancer and other chronic disease.

My research has been very rewarding for me both professionally and personally.

Projects I have been involved with have found, for example, that adolescent soy consumption may reduce the risk of breast cancer in later life, and that soy food consumption in women may reduce coronary heart disease as well as bone fractures in postmenopausal women. In addition, my research has shown that ginseng use may improve survival and quality of life for breast cancer patients. These findings are satisfying professionally in that they are likely to have significant impact on the prevention of these diseases. But they also are satisfying in that they provide a link to the wisdom of my paternal grandfather and the values of traditional Chinese medicine.

I have been very fortunate that my husband, also a professor of epidemiology, has been at my side to lend wisdom and professional and emotional support throughout my career. It is my hope that our two children will carry on the legacy to become doctors who “treat people before they get a disease.” ▼

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