Nutritional Assessment and Disease Risk in Rural Azerbaijan

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Background

Preventative Health Initiatives in Azerbaijan

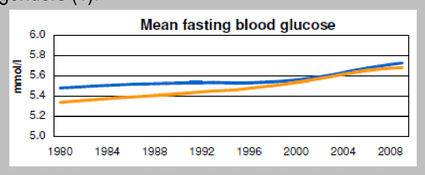
Prevention of cardiovascular disease is a point of interest for the government of Azerbaijan as they build health infrastructure and for USAID as they invest in the area. According to the World Health Organization epidemiologic profile of Azerbaijan, 55% of Azeri deaths are caused by cardiovascular disease (1). Cardiovascular disease is of particular interest in epidemiology for the majority of the risk factors for the disease are behavioral based. According to the World Heart Federation the main risk factors include hypertension, tobacco use, raised blood glucose levels, physical inactivity, unhealthy diet, high blood cholesterol and lipid levels, and obesity (2).

Current Health Concerns

Blood pressure averages have been now been increasing since 2000. The current data percentages of the Azeri population with elevated blood pressure is 43.7 for men, 39.8 for women and 41.6 overall (1).

Smoking rates in the region have been documented by the World Health Organization 2012 Report on the Global Tobacco Epidemic 2013 reports. The smoking current rate among adults (15 years or older) is 36.0% for men and 0.0 for women (3). The smoking rates among the Azeri youth are 11.4% for males and 2.1% for females (3). While advertisement restrictions have been enacted, few resources are offered to those attempting to quit smoking (3). Azerbaijan is currently 22nd for cigarettes per capita and its smoking rates have been increasing including in the youth population (4).

Blood glucose level is another risk factor on the rise in Azerbaijan. There has been a steady increase in blood glucose population averages over the last three decades in both genders (1).



World Health Organization - *NCD Country Profiles* , 2011. Blue: Male. Yellow: Female.

The average body mass index of the Azeri population is on the rise, however. Overweight is defined as a body mass index of 25 or higher. The population percent that is considered overweight is 50.6% of males and 61.0% of females, or 56.1% overall (1).

There is no previous data on physical activity levels and limited dietary information for the Azeri population.

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Objectives

This study sought to assess the local education efforts and cultural beliefs regarding dietary and behavioral risk factors of cardiovascular disease in Azerbaijan in order to develop a regional specific food frequency questionnaire and provide data on areas.

Study Design

7 male participants 40+ years of age in the rural population in the Quba region of Azerbaijan were interviewed. Participants were asked to provide an oral dietary recall for the week, and gave information about dietary habits as well as foods believed to promote health. Participants were also questioned about the significance of foods in their culture, use of tobacco and alcohol in society, and beliefs on physical activity. The data was translated and recorded in written form by two researchers. Based on the interviews and experience, food averages were established.

Figure 1. Azerbaijan is in the Caucasus region, located at the crossroads of Western Asia and Eastern Europe

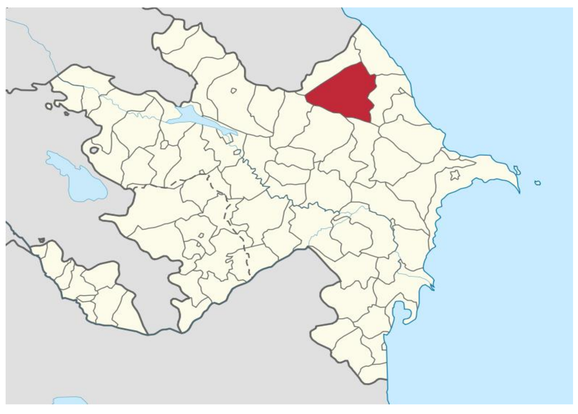

Figure 2.The Quba region is located in the northern mountain ranges near the closed Russian boarder.

Results

The Azeri population interviewed didn't place labels of "healthy foods" versus "unhealthy foods". Homemade and local foods were strongly valued, however. Exercise is not valued by those interviewed as part of a healthy lifestyle, but the importance of hard work was commonly stressed. Most leisure time is spent watching television or at the local chaykhana (tea house).

Researchers were informed that white flour, processed sugar, black tea, and salt are subsidized by the Azeri government and are thus are the main food items purchased outside of the villages. The main food items consumed are locally grown produce. This consists mainly of potatoes, onions, garlic, carrots, cabbage, cucumbers, tomatoes, and apples. Livestock is kept for milk and meat. Sheep, goats, and cows are kept for milk. Mutton and fish are the main meats consumed.

Figure 3. Standard meal: Bread, pickled vegetables, mutton and potato soup, yogurt, sheep cheese, and locally grown fruit.

Bread is sacred in Azeri culture. Every morning, fresh flat bread is baked for the day. Bread made from white flour, yeast, and water and is consumed with every meal. Cabbage, carrots, and garlic are pickled for the winter months. Fruits are jarred as preserves or boiled into a sugar drink called "Kompot".

Tea is served with a hard candy or fruit preserve (often made from quince). Tea is consumed with breakfast and lunch, in the afternoon, and with dinner. The tea is drunk through sugar cubes placed between the teeth and it is common for 5 or 6 cubes to be used during per glass (Armundu).

Tooth decay is a common health concern. Poor oral hygiene contributes to cardiovascular risk. Supplies such as tooth paste and tooth brushes are available in the area but are not used culturally

Smoking and drinking are more common among women than previous surveys would suggest. Based on interviews, many women do smoke, smoking in public is reserved for men, however. Cigarettes are easily purchased and unfiltered.

Figure 4.David Nichols in front of one of the villages in which the researchers stayed during the study.

Discussion

While a wide variety of foods are consumed as part of a daily diet, foods that included local produce, local animal products, and government subsidized items are commonly consumed. Salt and sugar consumptions are areas of concern. With tooth decay and cardiovascular disease common in the region, there is much opportunity for education about cardiovascular risk and nutrition. Data on smoking should also be re-evaluated in a way as to include women's non-public smoking.

There is also room for further seasonal study on nutritional and physical activity habits as this study was conducted during the winter months of the region and therefore did not encompass all seasonal food items.

References

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