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THE TIMES OF INDIA

Bi-cultural and assimilated South Asians healthier than those with more traditional habits: Dr Alka Kanaya

TNN | Jan 21, 2024, 05.00 AM IST

Two Indian American physicians who noticed that the incidence of heart disease and type 2 diabetes was higher among their family and friends decided to launch a study called MASALA (Mediators of Atherosclerosis in South Asians Living in America) to get to the bottom of this risk pattern. The Mumbai-born Dr Alka Kanaya, founding principal investigator of the study and Professor of Medicine, Epidemiology and Biostatistics at the University of California San Francisco, shares some insights with Ketaki Desai It's been over a decade since the study launched. What was the motivation behind it?

In the early 2000s when we had almost no data about South Asians in the US because all Asian Americans have been aggregated together, so it was very hard to know whether there were differences in disease prevalence as well as incidence and risk factors. I was also seeing a lot of my family and community members having a lot of disease burden, cardiovascular as well as diabetes. So, I launched a pilot study with very little funding from the National Institutes of Health in 2006 to get some idea of disease prevalence. We designed ‘MASALA’ to be similar in methods and measures to an ongoing study called the Multi-Ethnic Study of Atherosclerosis (MESA) which compares factors across different racial and ethnic groups in the US. Preliminary data showed that diabetes prevalence was much higher among South Asians. In 2010, our team at UCSF along with Dr. Kandula at Northwestern University established a larger cohort of 900 South Asians. Currently, we’re in the third follow-up exam for the original cohort and also the third wave of study recruitment. We are including Bangladeshis and Pakistanis in big numbers to be able to compare across the three groups, because we know from data that comes from other countries that there are differences among these three population groups. We want to see if this is true in the US as well and if it can be explained by different socio-economic, dietary, and behavioural factors. We’re hypothesizing that this is not going to be about genetic differences because our genes are related, but more about sociocultural and environmental factors.

What have the major findings been thus far from MASALA?

Diabetes prevalence is much higher in South Asians – 26% in MASALA vs 6% in White Americans as per MESA. In people without diabetes, we see higher prevalence of insulin resistance and pancreatic beta cell dysfunction. Both of these abnormalities are leading to this higher rate of diabetes. We've also found big differences in body composition. There's a lot more fat in the liver, around the visceral abdominal organs, and in muscles, and very little lean muscle mass compared to the four groups in MESA. Diabetes is the strongest risk factor for hardening of the arteries, and for cardiovascular disease. Lipids and hypertension are important factors too but diabetes and pre-diabetes is driving much of this risk.

What role does acculturation or assimilation play for immigrants?

South Asians are following three main dietary patterns – one is a healthy, mostly vegetarian dietary pattern that's rich in fresh fruits, vegetables, legumes, whole grains, and low-fat dairy foods. One-third of the cohort consumes this. One-third are consuming a South Asian diet that is high in fried foods, high-fat dairy products, and sweets, which is a less healthy but also mostly vegetarian diet. Then the third is a Western diet that has more animal protein and more alcohol. Those three patterns seem to really separate out by acculturation status as well, so as people are more acculturated, they're either consuming the western diet or that more healthy vegetarian diet pattern. The least acculturated are consuming the more traditional South Asian diet. Acculturation patterns also tell us some really interesting things about cardiovascular risk factors. There are three groups of acculturation –the separation group that has more traditional beliefs and behaviours, the bi-cultural group which has adopted some American beliefs and behaviours and kept some South Asian ones, and the assimilation group is most American. The profiles are healthiest among the bi-cultural group, and the assimilation group. In contrast, the separation group seems to have worse risk factors.

Cardiovascular disease is often associated with red meat, so why is it worse among those with primarily vegetarian diets?

The quality of the vegetarian diets is the issue. Are you eating fresh fruit and vegetables or are they being overcooked or fried so the nutrient value isn't really there? Our goal is to help inform people about adopting lifestyle changes that retain cultural significance but are healthier.

Why do South Asians have higher death rates from cardiovascular disease compared to other groups?

We're still trying to understand that. There seem to be some genetic factors that are different, like lipoprotein (a) levels tend to be higher in South Asians. But I think it's much more about modifiable risk factors, like behaviour, diet, exercise, smoking, stress, and sleep – all things can amplify the genes we may have inherited. But if we change these modifiable risk factors, we can get back to usual risk. There are also structural factors – there are people who don't have the ability to eat healthy or exercise because of socio-economic factors, where they live, safety, poor air quality, etc. Having access to good quality health care to prevent and manage chronic diseases is another important structural factor.

What can be done when it comes to prevention?

Change starts with you and where you can make a difference is by involving and encouraging the people around you and in your social networks. For example, getting daily exercise, not having dessert every day, and serving healthier options when you are hosting. My parents, who are in their eighties, only serve fresh fruit and nuts at their monthly prayer gatherings now, instead of mithais. The bigger work has to be done on our systems – food, healthcare, taxing things that are not so healthy for you like tobacco, alcohol, sugar sweetened beverages. We know soda taxes have worked in the US and Mexico. One interesting finding is that older participants in MASALA said the people most influential in making them exercise and eat healthier foods are their adult children, not their doctor, public health media, or spouse.

Are there differences between the men and women you studied?

In men, 30% had diabetes as compared to only 15% of women. We see this gender difference around the world for diabetes, but it is not such a big difference. What we're seeing in our follow-up exams though is that the women are catching up and developing diabetes too.