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[Living and eating habits of the T'simane people in Bolivia, a new approach to linking human health and ecosystem health through the microbiota]

[In recent years there have been several scientific studies published that have highlighted favourable health indicators and outcomes among members of the T'simane ethnic group compared to the rest of the world. These findings include better cardiovascular health, lower blood cholesterol and lower risks of coronary atherosclerosis worldwide. The authors of these studies attribute these favourable indicators to a pre-industrial lifestyle and diet. However, their own studies have not focused much on specific practices that have historically generated an environmental management model that allows them to have access to a type of food and environment that may contribute to these favourable health outcomes.

Through my work with the Centro de Investigación y Promoción del Campesinado (CIPCA) on environmental monitoring and organic honey production with young people from the Tsimane Maractunsi community, located in the Amazonian foothill forest of Bolivia, I have had the opportunity to witness the way of eating and living habits of this community of 240 people.

During four events of coexistence with the community between 2020 and 2022, I have found that the environmental management developed by this people allows them to obtain almost all their food resources, tools and housing from the forest they inhabit. They are very physically active, spending 90% of their waking hours walking, hunting, fishing or farming, with men spending 6 to 7 hours a day, and women 4 to 6 hours a day. They have a very low fat diet (14%), unsaturated fat intake is non-existent, sources of protein and fat come exclusively from the animals they hunt or fish, as well as from vegetables and fruits. There is a high intake of complex carbohydrates (72 %) such as beans, rice, plantain, maize, cassava, and a great diversity of cultivated fruits (such as citrus fruits) and fruits gathered from the forest.

In food consumption habits, the high potential interaction with environmental microbiota stands out. There is no consumption of processed food, food can be grilled on "chapapas", a kind of grill made from plant stems, and at feeding time they use elements from the forest such as leaves as plates, banana peels or shells as spoons, which in no case are washed with detergent. The potential moments of microbiota exchange are numerous, they all eat from the same pot and drink from the same container. A notorious source of microorganisms is through the consumption of chicha, a fermented drink made either from rice, yucca, plantain or maize, which is made exclusively by women who initiate the fermentation with their saliva by chewing the ingredient to be fermented. The consumption of chica as a main drink even surpasses that of water.

From the experiential observations I have made, it is evident that the diet and way of consumption of these people allows them a constant supply of microorganisms that interacts and enriches their internal microbiota, which could be much richer and more diverse than that of a person of average western life. Therefore, and given that in recent years there is more evidence on the importance of the microbiota in health, I postulate that it is very likely that the environmental richness of the natural environment in which these people live and their eating habits play a preponderant role in their overall health through the benefits of the microbiota.

Although several previous studies have been conducted on the life and health of the T'simane people, the relationship of these parameters with the microbiota and the ecosystem has not yet been addressed, which implies a new and interesting approach to understanding the integral health of human peoples with the integral management of the forest and the health of ecosystems.]

Bibliographic references