

A Critical View on Dietary Fibers and Prebiotics

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< Summary >

I was pleased when I have informed that Codex Alimentarius Commission was close to reach an agreement on the definition of dietary fibers. However, I am anxious about the usage of the term, dietary fibers. The term originally was targeted to plant cell wall component rich in cellulose. Being the main component of cotton or paper, cellulose is fibrous. However, another category of dietary fibers such as pectin or gums are never fibrous. It is entirely valid to say pectin or gums are dietary fibers, however, this might mislead general public to imagine some fibrous particles flowing inside of their gut when they ingest such dietary fibers. Thus, we should transmit the information to the public that there are two entirely different groups working on entirely different mechanisms in dietary fiber.

Another difficulty lies in the term “prebiotics”, which describes food component(s) to improve human health via increasing the number of probiotic bacteria. Most prebiotics are carbohydrates resistant to human digestive enzymes. Thus, to be prebiotic in a strict sense the carbohydrate should have a stronger effect on the human function (end point effect) than other indigestible carbohydrates that can be used by wider spectrum of bacteria. It is also necessary to demonstrate the causal relationship among prebiotics, increase in number of probiotic bacteria and end point effect(s) different from parallelism. In this regard, the concept of prebiotics still stays as a concept due to the lack in logically conclusive evidence.

As a university teacher I feel the responsibility to educate scientists, administrators and general public to be sensitive about the usage of terms and logics in nutritional sciences.