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OBESITY & THE GUT

WHITEPAPER



OBESITY

Obesity is a common problem across the entire world, not excluding the UK. The occurrence of this condition has grown rapidly since the 80s, with the main cause of this attributed to an increasing easy access to calorie-rich food and a sedentary lifestyle.

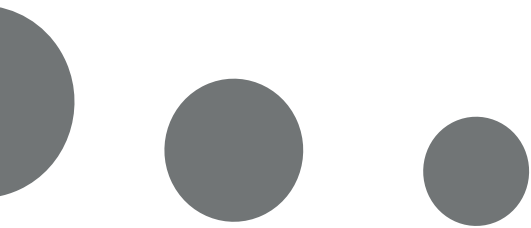
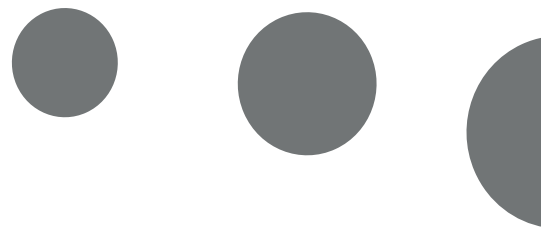
Obesity represents a serious health risk and increases the chances of developing other conditions (type 2 diabetes, high blood pressure, cardiovascular disease, asthma etc.).

The gut microbiota plays a role in the development and progression of obesity. A majority of overweight and obese individuals demonstrate a dysbiosis – a low diversity of microbes in the gut⁽¹³⁷⁾. This low microbial diversity is typically associated with an unhealthy diet which has poor dietary fibre content. Additionally, some microbes, like *Christensenella* and *Akkermansia*, are rare in obese people^(138, 139).

Compounds known as Short-Chain Fatty Acids (SCFAs – acetate, propionate and butyrate), produced by the gut microbes help to regulate an energy balance and appetite in our body^(19, 43, 44). One of the best studied mechanisms to regulate energy intake is the ability of SCFAs to increase the production of satiety hormones (PYY, GLP1), which encourage a reduced food intake. Moreover, SCFAs are involved in the stimulation of cells to encourage the use of fat as a source of energy with potential benefits of weight management. A supporting study demonstrated that 12 weeks of daily intake of cider vinegar, which naturally contains acetate, was associated with the reduction of body weight in obese individuals.

Diet is also an effective means to manage body weight. Long-term supplementation with fibre increases the production of satiety hormones which reduces appetite resulting in a reduction in food intake⁽¹⁴⁾. Additionally, the control of weight by manipulation of microbiota and SCFAs has been widely confirmed⁽²⁹⁾, therefore, increasing evidence supports a beneficial role of SCFAs and microbiota to prevent and counteract obesity.





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