PRESS RELEASE

Eating little and often not as important as counting calories for weight loss

Eating small but frequent meals is often recommended for overweight adults trying to lose weight. However, research presented today at the Society for Endocrinology annual BES conference suggests that following this diet doesn't boost your metabolism or encourage weight loss, and ultimately, counting calories is all that matters for losing weight.

University of Warwick researchers have previously shown that eating a single high fat meal increases low level inflammation in the body through fragments of gut bacteria, known as endotoxins, entering the blood stream. This type of inflammation has been previously linked to a future risk of developing type-2 diabetes and cardiovascular disease.

In this study, researchers investigated whether eating often would cause repeated damage that could increase the risk of type 2 diabetes and cardiovascular disease in obese subjects. 24 lean and obese women were given two meals or five meals on separate days. The women consumed the same number of calories on both days and their energy expenditure was monitored using whole body monitor calorimeters.

The researchers found that regardless of the number of meals they had, both obese and lean women burned the same number of calories over a twenty four hour period. They also found that at the end of each day, obese women accumulated significantly higher levels of endotoxins after eating five meals compared to when they only had two.

Lead author of the study Dr Milan Kumar Piya said, "Our studies have identified two main findings; firstly that the size or frequency of the meal doesn't affect the calories we burn in a day, but what matters most for losing weight is counting calories. Secondly, by carrying more weight, more endotoxin enters the circulation to cause inflammation and eating more often will exacerbate this risk which has been linked to metabolic diseases such as type-2 diabetes."

The next step of the research is to assess the impact of diet, gut flora and calories burned in different people. "By understanding how diet affects inflammatory risk and energy expenditure, we will further our understanding of how we can better target diet intervention on an individual basis," according to Dr Piya.

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Notes for editors

1. For further information about the study please contact the authors of the study:

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2. The study *Meal size and frequency influences metabolic endotoxaemia and inflammatory risk but has no effect on diet induced thermogenesis in either lean or obese subjects* will be presented by Dr Milan Piya *et al.* at the Society for Endocrinology's annual BES conference at 13:00 on Tuesday 25 March 2014.

3. For any enquiries, or copies of the abstract, please contact the Society for Endocrinology press office:

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4. The Society for Endocrinology's annual BES conference is held at the ACC Liverpool from 24 - 27 March 2014. BES features some of the world's leading basic and clinical endocrinologists who present their work. Journalists wishing to attend should contact Omar Jamshed at the Society for Endocrinology press office.

5. The Society for Endocrinology is a UK-based membership organisation representing a global community of scientists, clinicians and nurses who work with hormones. Together we aim to improve public health by advancing endocrine education and research, and engaging wider audiences with the science of hormones www.endocrinology.org