New UCL Research - Is Your Probiotic Dead or Alive?

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60% of UK households regularly purchase probiotics. As consumer interest in probiotics has grown, so has the number and variety of products that claim to provide a beneficial effect on the GI tract - the market is now flooded with products claiming to contain 'beneficial bacteria' that helps ease digestive problems such as IBS.

Probiotic marketing campaigns often include claimed research to support them, but many manufacturers have avoided comparisons between brands using realistic tests. Now scientists at University College London (UCL) have independently conducted one of the first studies comparing some of the most popular probiotic brands available in the UK, to test which products are likely to actually survive and thrive in the gut environment. The study used representative in-vitro test systems that allow understanding of the various factors that must be controlled to give the greatest chance of delivery of live, healthy bacteria to the lower gut.

A total of eight commercially available probiotic preparations were selected by UCL to undergo these tests:

Yakult
Actimel
Align
Biobalance
Bio-kult
Probio7
Symprove
VSL#3

In the real world, to be successful a probiotic product **needs to successfully beat three challenge tests-**

1. Arrive safely in the gut in a live state - Were the claimed number of bacteria recoverable?

Probiotics are typically available as capsules or liquid formulations. The UCL study results indicate that at the point of consumption, liquid probiotic products contain close to or in excess of their claimed content. However, for freeze-dried products, the viable content was generally lower than the stated claim and in some cases, strikingly lower. Tablets and capsule probiotics contain multiple strains of freeze-dried bacteria, which must rehydrate to recover viability; causing many of the bacteria to be lost as they attempt to recover to an active state. Only dairy-based (**Actimel, Yakult**) or water-based probiotics (**Symprove**) delivered 100% or more than the claimed content.

2. Survive stomach acids - Do the bacteria survive exposure to gastric juices?

The initial acid shock after only 5 minutes was dramatic on almost all products, with some showing almost complete collapse. Given that most products, when used as stated on the label, will take between 30 to 120 minutes to pass through the stomach, it seems likely that very few bacteria will actually make it through alive to the small intestine. Only two products (**Symprove**, **VSL#3**) survived stomach transit time (120 minutes), with one of these continuing to decline (**VSL#3**). Only one product seems stable (**Symprove**).

3. Thrive in the target area of the gut - Are the bacteria able to grow after exposure to gastric juices?

A probiotic product must be able to grow quickly, to establish a strong colony before travelling too far along the gut and being ejected from the system. After only a 30 minute exposure to gastric acid, the products showed very different abilities to grow. Only three products showed signs of strong growth within 10 hours (**Symprove**, **Actimel**, **VSL#3**). Others showed very slow, or even no growth.

To conclude, only one product met all three challenges (**Symprove**) – with several popular products failing all three challenges. Many UK consumers are wasting millions on bacteria that simply die in the stomach.

Case Study: Lucinda Barton, from Sussex - "I've wasted hundred of pounds on products for my IBS"

- Lucinda has suffered from Irritable Bowel Syndrome (IBS) for the past 10 years, although was only diagnosed 5 years ago. IBS is Britain's most common digestive complaint, affecting over 12 million people in the UK. While not life-threatening, the symptoms of IBS (including stomach pain, bloating, constipation and diarrhoea) can have a significantly negative impact on quality of life, with a large percentage of IBS sufferers in desperate need of safe, effective symptom relief.

- Despite the high prevalence of IBS, recent research reveals that the condition is extremely poorly managed. IBS sufferers try an average of 5 “gut health” products - such as probiotics - each month, but around half are still left battling the symptoms long-term. Lucinda has tried a variety of probiotic yoghurts such as Actimel and Yakult, aswell as various anti-spasmodics and anti-diarrhoea drugs, but nothing effectively eased her symptoms long-term. She had resigned herself to the fact that she was simply going to have to learn to live with the condition.

- Lucinda says “IBS might not sound like a big deal – but it completely ruled my life. I dreaded any kind of social occasion as I knew I'd end up with excruciating abdominal pain if I ate anything and often suffered crippling bouts of diarrhoea that left me confined to the toilet. One night I woke in the middle of the night with what I can only describe as labour-like pains. It was agony – I was doubled over with pain. I was absolutely terrified and my husband phoned for an ambulance immediately. When the paramedics arrived they assessed me and concluded it was 'only' IBS. The paramedic gave me an antispasmodic which helped with the pain until morning – but they weren't not suitable for long-term use, which was what I desperately needed. Conventional probiotics promised great things but didn't touch it. I was at my wit's end – a prisoner in my own home.”

- Lucinda had resigned herself to the fact that she was going to have to live with the condition until she read about the results of a hospital trial involving a new treatment - a “live” multi-strain liquid bacteria called Symprove, proven in an independent NHS hospital study to combat IBS symptoms with no adverse effects. The double blind, placebo-controlled trial run by King's College Hospital, London, involved 186 patients suffering from moderate to severe IBS, for whom common treatments had failed. Over the course of 12 weeks, Symprove significantly reduced the severity of a range of IBS symptoms; in particular abdominal pain.

- She says “Symprove has enabled me to live my life symptom-free, which is nothing sort of a miracle. I've gone from spending my days hiding at home near the toilet to having freedom for the first time in years. I feel like a huge weight has been lifted from me - having the confidence to not dose myself up with medication every time I leave the house has been a life changer. I have two young sons and am so relieved to have finally found something that actually works and lets me get on with my day uninterrupted. Symprove has not just improved my life; it has given me my life back."

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