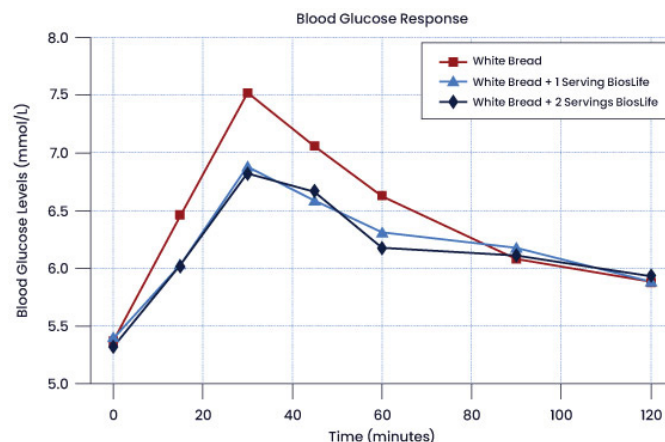


The University of Sydney: Effects of a dietary fiber supplement (BiosLife) on blood glucose and insulin

Summary

In this study, we evaluated the effects of a fiber supplement (BiosLife) on postprandial glucose and insulin response to white bread in healthy subjects. Results demonstrated that both one and two servings of BiosLife significantly reduced the glycemic response by 20% and 28%, with corresponding reductions in insulinemic response by 21% and 27%, respectively. BiosLife achieved these dose-dependent reductions without modifying the test food itself. This demonstrates that taking BiosLife before high-carbohydrate meals is an effective strategy for managing post-meal blood glucose and insulin spikes, supporting overall metabolic health for individuals managing their blood sugar.



Background

When we consume carbohydrate foods, they are broken down in the gastrointestinal tract into simple sugars like glucose, which are then absorbed into the bloodstream. While some carbohydrates digest quickly and cause rapid spikes in blood glucose and insulin, certain dietary strategies can help slow carbohydrate digestion and support steadier, more sustained energy. One such example is consuming a source of viscous soluble fiber before a meal.

The habitual consumption of quickly digesting carbohydrates has been linked to increased risk of diabetes, cardiovascular disease, and certain cancers [1,2]. On the other hand, fiber slows carbohydrate digestion and reduces post-meal glucose and insulin spikes. Previous research has shown that improved glycemic control supports better outcomes for individuals at risk for diabetes [3] and that low-insulin-response dietary approaches support healthy weight management [4,5].

The postprandial glucose response (blood glucose response after eating) is an important independent predictor of metabolic health and long-term glycemic control, particularly in individuals with impaired glucose metabolism [6]. Therefore, this study was designed to evaluate whether consuming a fiber supplement (BiosLife) before a high-carbohydrate meal could attenuate post-meal glucose and insulin responses, thereby offering a practical dietary strategy to achieve better metabolic health.

Methods

Ten healthy adults (4 males, 6 females; mean age 29.9 years; mean BMI 22.7 kg/m²) participated in this study. Participants consumed a reference food consisting of 51.4 g of pure glucose dissolved in 250 g of water, as well as three test meals (119 g white bread each) providing 50 g of available carbohydrate: white bread alone; white bread preceded by one serving of BiosLife (7.25 g); and white bread preceded by two servings of BiosLife (14.5 g).

Participants fasted overnight for at least 10 hours before test meals were administered. Blood samples were collected at baseline and at 15, 30, 45, 60, 90, and 120 minutes after eating. Plasma glucose and insulin concentrations were measured, and glycemic index (GI) and insulinemic index (II) values were calculated from the incremental area under the curve (iAUC).

Data are presented as means $\pm$ SEM. Statistical differences were assessed using ANOVA with post-hoc tests; $p < 0.05$ was considered significant. The study was approved by Sydney University Human Research Ethics Committee.

Results

Glucose Response

White bread alone produced a large blood glucose response (GI 83 $\pm$ 6), with peak glucose levels occurring at 30 minutes post-meal. Taking BiosLife before eating white bread significantly reduced both total glucose response (Figure 1) and peak glucose levels (Figure 2). One serving of BiosLife reduced the blood glucose response by 20% (GI 66 $\pm$ 5; $p < 0.05$ vs. control), while two servings reduced it by 28% (GI 60 $\pm$ 4; $p < 0.01$ vs. control).

Insulin Response

Insulin responses followed the same pattern as glucose. White bread alone produced a high insulin response (II 89 $\pm$ 5; Figure 1), with peak insulin levels occurring at 30–45 minutes and the largest total response (Figure 3). Consuming BiosLife before eating significantly reduced insulin levels. One serving reduced the insulin response by 21% (II 70 $\pm$ 5; $p < 0.01$ vs. control), and two servings reduced it by 27% (II 65 $\pm$ 7; $p < 0.001$ vs. control).

Figure 1

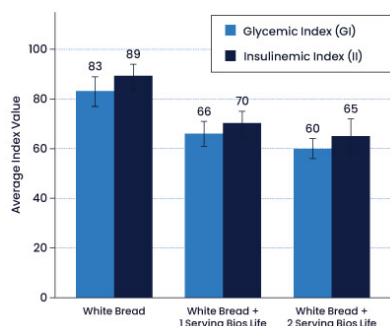


Figure 1. Glycemic Index (GI) and Insulinemic Index (II) for the white bread test meal without and with one or two servings of BiosLife.

Figure 2

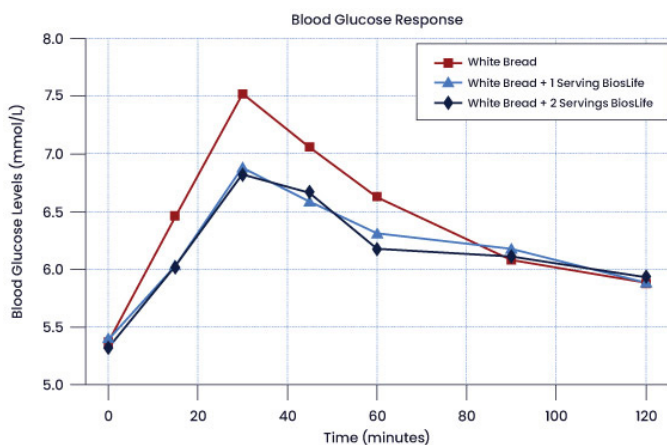


Figure 2. Blood glucose response curves over 120 minutes for white bread alone and white bread with one or two servings of BiosLife.

Figure 3

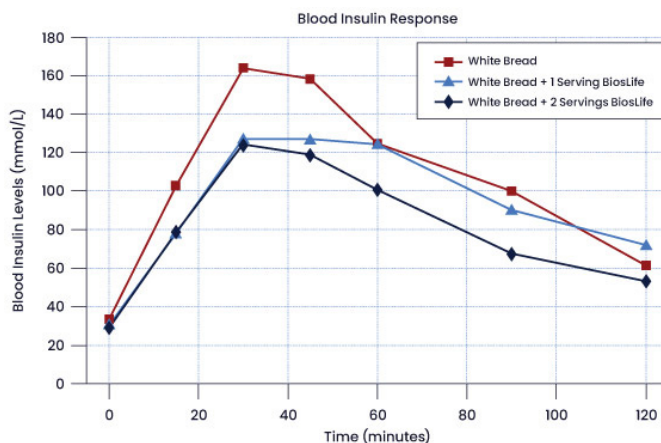


Figure 3. Blood insulin response curves over 120 minutes for white bread alone and white bread with one or two servings of BiosLife.

Conclusion

This controlled study, conducted at the University of Sydney, demonstrated that taking BiosLife before a high-carbohydrate meal can meaningfully blunt the blood glucose and insulin response that would otherwise follow. Notably, BiosLife shifted white bread's classification from a high-glycemic food to a moderate-glycemic one, with insulin responses moving in proportion, and it did so without any change to the meal itself. The effect was also dose-responsive: a larger amount of BiosLife produced a correspondingly greater reduction in both glucose and insulin response.

These findings position BiosLife as a practical, evidence-based tool for managing post-meal blood sugar and insulin spikes, an approach that may support metabolic health, healthy weight management, and blood sugar control as part of a broader dietary strategy.

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