

# Lipid and glucose optimization using phytonutrient combination therapy in diabetes

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**Introduction:** Dietary approaches to management of lipid and glucose parameters in diabetes is gaining popularity among patients. Monotherapy with dietary ingredients has shown positive effects, but with limited clinical relevance. Our research focuses on using a phytonutrient combination in optimizing lipid and glucose parameters. All four ingredients have individual data supporting their use for optimizing lipoprotein fractions in hypercholesterolemia. This pilot study evaluates their combined efficacy in type-II diabetes.

**Methods:** A group of 34 subjects with established type-II diabetes and hypercholesterolemia added the product to their diet. The drink was taken thrice daily 15-20 minutes before meals. The fiber drink consists of viscous soluble fiber, minerals, vitamins, policosanol, phytosterols, and an aqueous *Chrysanthemum morifolium* extract. Lipid and glucose parameters were measured at baseline, 4 and 8 weeks.

## Results:

Parameter	Inclusion criteria at BL (mg/dL)	B.L. (mg/dL)	t=8 weeks (mg/dL)	Δ %	p-value
TC	All	208	178	-14.2	<0.01
TC	>200	245	195	-21.5	<0.001
LDL-c	All	127	104	-18.3	<0.05
LDL-c	>160	197	141	-28.9	<0.005
HDL-c	All	46	48	+3.5	n.s.
HDL-c	<40	35	40	+14.4	n.s.
TG	All	182	143	-21.3	n.s.
TG	>150	242	163	-32.5	<0.05
Glu	All	162	134	-17.3	<0.05
Glu	>175	218	155	-28.9	<0.05
HbA1c	All	7.2 <sup>a</sup>	6.6 <sup>a,b</sup>	-9.4	<0.05
HbA1c	>8 <sup>a</sup>	9.2 <sup>a</sup>	7.8 <sup>a,b</sup>	-15.8	<0.05

<sup>a</sup>in %; <sup>b</sup>measurement at 12 weeks.

**Conclusion:** BiosLife, a phytonutrient combination drink, shows potential in optimizing parameters associated with cardio vascular disease risk in type-II diabetes. These findings are well in line with previously reported clinical results. The fiber component has reduced the post-prandial glucose levels and the resulting lower HbA1c levels indicate that BiosLife provides a natural option to improve diabetes management.