ARCTIC LINGONBERRY PRODUCT IMPROVES BLOOD SUGAR AND LIPID VALUES

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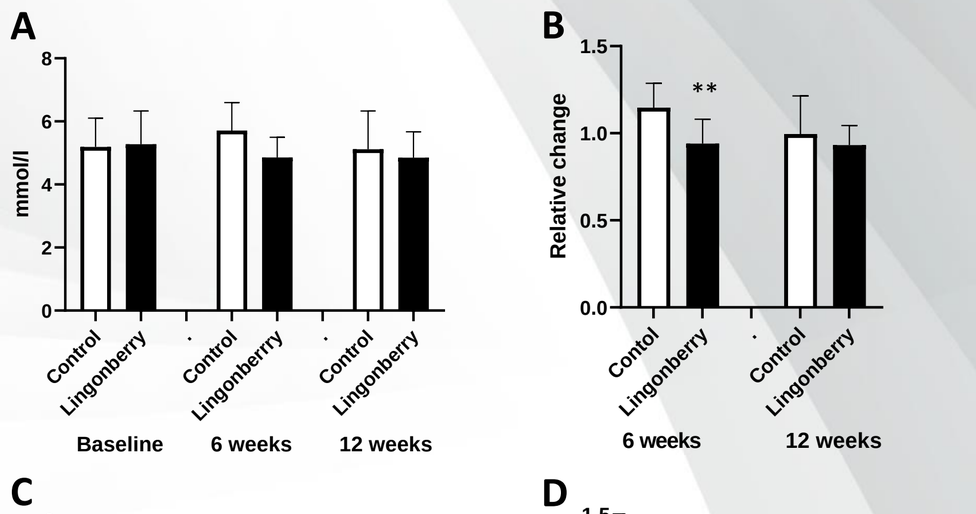
Introduction: Incidence of lifestyle diseases such as type-2 diabetes and cardiovascular diseases is constantly increasing in Western countries. Arctic berries such as lingonberry are rich in polyphenols and have many health-promoting effects counteracting risk factors of lifestyle diseases, such as blood sugar and lipid profiles.

Materials & Methods: The study included two groups of 22 healthy volunteers, a control group without any intervention and a lingonberry group consuming 3 portions of a natural lingonberry product (Natural Flow, Arctic Nutrition, Hamina, Finland) equaling daily intake of 33.6 grams of lingonberries. Body composition, blood sugar and lipid profiles were determined before study start and at 6 and 12 weeks.

Results: Blood sugar and lipid profiles were significantly improved in the lingonberry group compared to the control group. The lingonberry product decreased total cholesterol, LDL and triglyceride values, and glucose values in a 2-hour oral glucose tolerance test. It also showed a non-significant trend of decreasing BMI, fat percentage and visceral fat amount.

Table 1: Body composition, blood sugar and lipid values.

Group		Control			Lingonberry	
Timepoint	**Baseline**	**6 weeks**	**12 weeks**	**Baseline**	**6 weeks**	**12 weeks**
Glucose 0h (mmol/l)	5.6 (0.5)	5.5 (0.5)	5.4 (0.6)	5.8 (0.6)	5.7 (0.5)	5.5 (0.6)
Glucose 2h (mmol/l)	6.2 (1.3)	-	6.6 (1.4)	6.8 (2.7)	-	5.8 (1.7)
Cholesterol (mmol/l)	5.2 (0.9)	5.7 (0.9)	5.2 (1.3)	5.3 (1.1)	4.9 (0.6)	4.9 (0.8)
LDL (mmol/l)	3.6 (1.0)	3.9 (1.1)	3.8 (0.9)	3.7 (1.1)	3.3 (0.7)	3.4 (1.0)
Triglycerides (mmol/l)	1.3 (0.7)	1.4 (0.9)	1.4 (1.0)	1.3 (0.7)	1.2 (0.9)	1.2 (0.6)
BMI (kg/m2)	28.7 (4.4)	28.6 (4.5)	28.7 (4.5)	29.7 (5.1)	29.0 (5.2)	29.4 (5.3)
Fat percentage	34.9 (7.5)	34.4 (7.4)	34.9 (7.8)	35.0 (9.2)	32.6 (10.4)	33.2 (11.0)
Visceral fat (cm2)	138.5 (43.5)	136.0 (46.0)	139.2 (45.0)	145.8 (53.7)	138.4 (54.8)	137.2 (55.8)



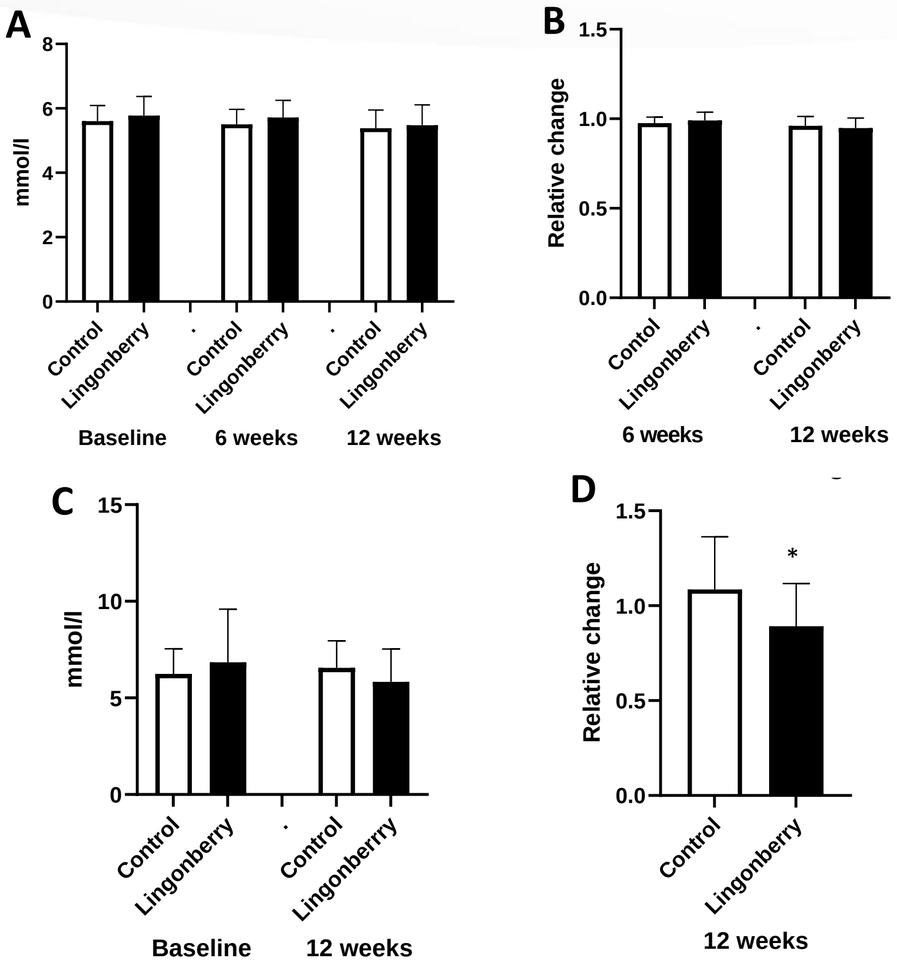


Figure 1: Blood sugar values. A) Fasting glucose at baseline, 6 and 12 weeks; B) Relative changes of fasting glucose at 6 and 12 weeks; C) 2-hour oral glucose tolerance test at baseline and 12 weeks; D) Relative changes of 2-hour oral glucose tolerance test at 12 weeks.

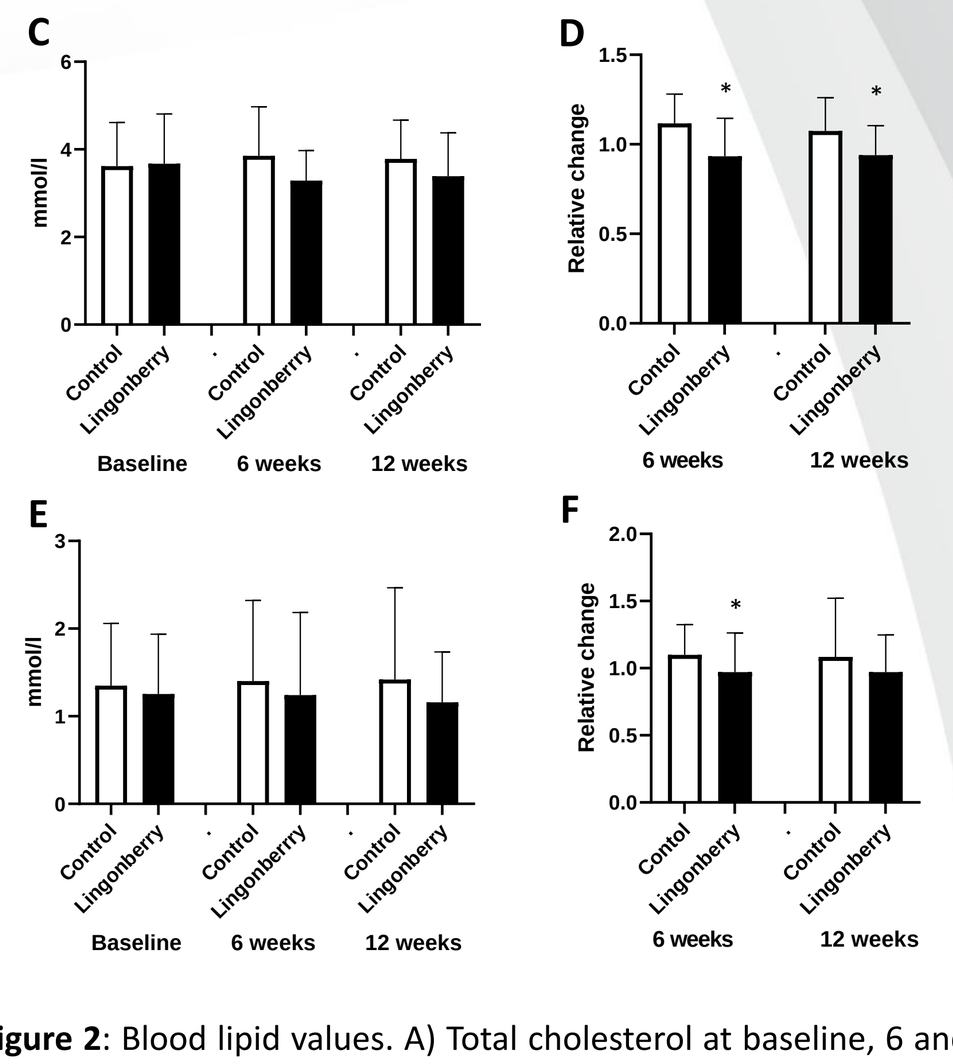


Figure 2: Blood lipid values. A) Total cholesterol at baseline, 6 and 12 weeks; B) Relative changes of total cholesterol at 6 and 12 weeks; C) LDL cholesterol at baseline, 6 and 12 weeks; D) Relative changes of LDL cholesterol at 6 and 12 weeks; E) Triglycerides at baseline, 6 and 12 weeks; F) Relative changes of triglycerides at 6 and 12 weeks.

Conclusions: These results confirm that beneficial effects of lingonberries on blood sugar and lipid profiles are preserved in the studied Flow product and demonstrate that prolonged use of lingonberries or natural lingonberry products has beneficial effects on risk factors of lifestyle diseases.

References

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