Supplemental Figure 1. Description of the Study Diets.

**Healthy Diet (HD)**

In HD group (n=37) the participants replaced their habitually used cereal products with breads having a low postprandial glucose and insulin response, contributing up to 20-25 % of total energy intake (40 % share of endosperm rye bread, 10 % share of sourdough whole meal wheat, and 50 % share of a selection of commercial rye breads). The recommended intake of whole meal pasta was at least 3.5 deciliter (uncooked) a week. The fiber content (g/100g) of the study cereal products was: endosperm rye bread 6.9, whole meal wheat bread 6.4, commercial rye breads 10-14.4 and pasta 6. Besides the above mentioned cereal products, one portion of their habitually used cereal product was allowed to be eaten daily, e.g. porridge, cereals or pastries. Participants were also instructed to eat fatty fish meals (100-150 g of fish /meal) three times a week. The following fish species were recommended: salmon, rainbow trout, bream, Baltic herring, roach, vendace, white fish, char, trout, red-fish, mackerel and anchovy. In fish...
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preparation, participants were advised to avoid sources of saturated fat, such as butter and cream. Bilberries were eaten 3 portions per day. Bilberries were served as frozen, puree and dried powder. The total amount of three portions is equivalent to 300 grams of fresh bilberries. Habitual use of other berries was allowed with a max 3-4 portion a week.

**Whole Grain Enriched Diet (WGED)**

In the WGED group (n=34), the participants consumed the same cereal products as in the HD group. Additionally, they were given whole grain oat biscuits that they were allowed to consume one portion per day on a voluntary basis. Biscuits contained 8-8.5g/100g of dietary fiber and 16-18g/100g of fat, of which 4.3-7.7g was saturated. Participants in the WGED group were asked not to change their fish and berry consumption.

**Control**

In the Control group (n=35) participants replaced their habitually used breads with refined wheat breads (dietary fiber 3-4.3 g/100g) and other cereal products, e.g. porridge or pasta, with low fiber products (<6 g/100g dietary fiber). Participants were allowed to eat maximum of 1-2 portions of rye products per day. The intake of bilberries was not allowed and other berries were allowed maximum of 3-4 times per week with maximum of 1 deciliter at a time. Fish was allowed to be eaten no more than once a week. Otherwise, the habitual diet and living habits were kept unchanged in all groups.

**Compliance**

Participants recorded daily the use of the test breads (all groups), pasta (HD and WGED), oat biscuits (WGED), bilberries (HD), and fish (HD). Four-day food records (consecutive days) that included one weekend day were kept by the study persons during the run-in period and three times during the intervention period in all groups.

The mean test bread consumption during the intervention period was 7.7 portions (182 ± 42 g), 7.9 portions (187 ± 45 g) and 6.8 portions (197 ± 46 g) per day in the HD, WGED and Control groups, respectively. In the HD group, the mean fish consumption was 3.3 fish meals (100-150 g / meal) per week. The mean bilberry consumption in the HD group was 3.2 portions per day. The total amount of three portions is equivalent to 300 grams of fresh bilberries.