

Abedulce®

Birch Sugar



Scientific research of birch sugar for dental care (within the period from 19721 to 2004)

The studies show that the birch sugar (xylitol) is an easy, effective and lasting means of caries prophylaxis. Up to the present moment, about 300 specific researches of xylitol effect in dental care have been undertaken. We have recapitulated the most important studies for you:

Turku sugar studies A) [1975]

Source: Scheinin, A., Mäkinen, K.K. (1975) Turku Sugar Studies I-XXI. Acta Odontol. Scand. 33 (Suppl. 70): 1-349.

Period: 2 years of study [1972 – 1974]

Respondents: 115 participants between 12 and 53 years of age

Trial groups: a "sucrose group", a "fructose group", and a "xylitol group".

Administration: xylitol 50 -67g/day with regular nutrition

Turku sugar studies B) [1975]

Source: Scheinin, A., Mäkinen, K.K. (1975) Turku Sugar Studies I-XXI. Acta Odontol. Scand. 33 (Suppl. 70): 1-349

Period: 1 year [1973 – 1974]

Respondents: 100 dental medicine students

Trial groups: a "sucrose group" and a "xylitol group"

Administration: 6.7g/day in a form of chewing gum

Results:

- Highly significant reduction of caries (over 85%) with xylitol.
- Alternation of DMFS index with the xylitol group = 0.0
- Significant difference in DMFS index within 6 months
- Significant changes also under consumption of xylitol of only 6.7g/day
- Remineralization effect under continued xylitol administration was confirmed

DMFS index = is a contraction for conclusion on the health/disease state of the teeth, in which D= decayed, M = missing, F = filled (with dental filling), and S = surface. An index value of 1 means that out of 28 remaining teeth, one tooth either has caries,*

or is filled or missing.

Ylivieska research [1982 – 1984] –Follow-up in 1987 and 1989

Source: Isokangas, P., Mäkinen, K.K., Tiekso, J., Alanen, P. (1993) Long-term effect of xylitol chewing gum in the prevention of dental caries: a follow-up 5 years after termination of a prevention program. Caries Res. 27:495-498.

Period: the research lasted for 2 years

Respondents: pupils, 11-12 years of age

Trial groups: a „standard prophylaxis group“, a „+ xylitol prophylaxis group“

Administration: xylitol, 7 – 10g / 3x day as chewing gum

Results:

- As a compliment to a standard oral hygiene xylitol has a significant improvement effect in caries prophylaxis.
- Long-lasing protection of teeth is also achieved by the application of xylitol.
- Prophylactic effect against caries is stronger with the erupting teeth

Belize studies [1989 – 1993]

Source: Mäkinen, K.K., Bennett, C.A., Hujoel, P.P., Isokangas, P.J., Isotupa, K.P., Pape, H.R., Jr., Mäkinen, P.-L. (1995) Xylitol chewing gums and caries rates: a 40-month cohort study. J. Dent. Res. 74:1904-1913.

Period: the research lasted for 40 months Respondents: 1,300 pupils (6 – 8 YO) Trial groups: a "sucrose group", a "sorbitol group", and a "xylitol group".

Administration: xylitol, 15g /7x day as chewing gum

Results:

- Children from the xylitol chewing gum group had shown a significantly lower caries development within 40 months as compared to the children from the control groups.
- Xylitol has an anticariogenic effect immediately after the beginning of administration thereof.
- Even in a follow-up 5 years after the xylitol administration, the children have shown to have healthier teeth.

Mother/Child study, Finland [2000]

Source: Isokangas P., Söderling, E., Pienihäkkinen, K., Alanen, P. (2000) Occurrence of dental decay in children after maternal consumption of xylitol chewing gum: a follow-up from 0 to 5 years of age. J. Dent. Res. 79:1885-1889

Period: the research lasted for 5 years

Respondents: mothers of neonates

Trial groups: a "xylitol group", a "fluoride group", and a "chlorhexidine group".

Administration: xylitol, 6 – 7g / 4x day, xylitol chewing gums

Results:

- Administration of xylitol can prevent the transmission of caries germs (Streptococcus mutans) within the family.
- The studies substantiate a thesis that caries is a contagious disease.
- Xylitol administration to the mothers has a preventive effect on tooth caries development among their children.

Pastilles study [2004]

Source: Z.Gintner, J. Szöke, Á. Patthy, E. Söderling, J. Bánóczy (2004) Effect of xylitol pastilles on tooth plaque and Streptococcus mutans. Oral prophylaxis and children's dentistry. 26:93-95 [Wirkung von Xylit-Pastillen auf Zahnplaque und Streptococcus mutans. Oralprophylaxe & Kinderzahnheilkunde 26:93-95]

Period: the research lasted for 4 weeks

Respondents: 59 young adults [20-25 years of age]

Trial groups: a "xylitol group", a "control group"

Administration: xylitol 5g/ 4x day as pastilles

Results:

- Xylitol, even in delivery form of pastilles, brings a significant reduction of plaque mass and caries germs (Streptococcus mutans).
- Reduction of plaque mass by means of xylitol administration becomes significant even after 4 weeks of administration.
- Xylitol has a favorable influence on mouth hygiene.