

The primary prevention of dental caries includes the regular reduction of dental plaque, the adequate nutrition with reduced frequency of sugar intake and the application of topical and/or alimentary fluorides. The caries-protective effect of fluorides is based on the stabilization of demineralization/remineralization processes in the surface of teeth. The alimentary fluoride intake involves its nutritional sources, fluoride supplements when administered and unintentionally swallowed fluoride toothpastes. The fluoride intake, besides its verifiable and significant contribution to the control of cariogenic conditions in the oral cavity, brings some risk in the period of permanent teeth development. That is why the fluoride intake in childhood ought to be well set up and controlled for achieving the maximum benefit in caries reduction and for minimizing the risk for the enamel development. The assessment on fluoride content in its most significant nutritional sources and the model estimates of fluoride intake in preschool children have been conducted with the aim at contributing the solution of the benefit/risk strategy of fluoride caries prevention. The fluoride content was estimated in bottled waters for preschool children, in instant milk formulas, in herbal teas for children and in instant products of childrens' meals and snacks. In addition the overall daily intake of fluoride was estimated by the double plate method. The final study showed the model calculation of the fluoride intake estimate from real food sources and unintentional intake of fluoride from toothpastes with regard to the generally accepted and safe intake range 0.04-0.07 mg/kg b.w./day. The fluoride intake data can be employed in the guidelines of dental and paediatric societies for the fluoride prevention of dental caries.