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## 2 FDI Position on Free Sugars

### 3 Background

4 Oral diseases affect some 3.5 billion people worldwide and have an estimated prevalence of 45% -  
5 the highest of any noncommunicable disease (NCD)<sup>1</sup>. They include a range of conditions such as  
6 dental caries, periodontal disease, edentulism, oral cancer, trauma, noma and congenital  
7 differences including cleft lip and/or palate<sup>2</sup>. Among the major oral diseases, untreated caries is the  
8 most prevalent with 2 billion cases affecting permanent teeth and 510 million cases affecting  
9 deciduous teeth<sup>1</sup>

10 Oral diseases are increasingly associated with chronic NCDs and share risk factors including  
11 unhealthy diets high in free sugars, alcohol consumption, tobacco use and exposure to  
12 environmental pollution<sup>3</sup>. They also have common social and commercial determinants of health  
13 which include the political, social and economic conditions and strategies employed by the private  
14 sector that influence unhealthy choices<sup>4</sup>.

15 Excessive consumption of sugars from snacks, processed foods and sugar-sweetened beverages  
16 (SSBs) is one of the major factors causing worldwide increases in oral disease, cardiovascular  
17 disease<sup>5-9</sup>, cancer<sup>10-14</sup>, obesity<sup>15-21</sup>, and diabetes<sup>22-27</sup>.

18 Free sugars offer little nutritional value and many countries have implemented public health  
19 strategies and taxation levies to reduce their consumption<sup>28</sup>. FDI published a policy statement in  
20 2015, to emphasize the urgent need to reduce dietary sugars to prevent dental caries<sup>29</sup>. Further to  
21 that FDI's Vision 2030 recognizes the importance of policies addressing free sugar consumption  
22 as an indicator for monitoring progress in improving oral health<sup>30</sup>. The draft WHO Global Oral  
23 Health Action Plan (2023-2030), which aligns with Vision 2030 also recommends that by 2030, at  
24 least 50% of countries should have policy measures aiming to reduce free sugars intake<sup>31</sup>.

### 25 Defining free sugars

26 The World Health Organization (WHO) defines "free sugars" as monosaccharides (e.g. glucose,  
27 fructose) and disaccharides (e.g. sucrose) added to foods and drinks by the manufacturer, cook or  
28 consumer and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates<sup>32</sup>.  
29 It does not include naturally occurring sugars in fruits, vegetables, and dairy products. Free sugars  
30 cause tooth decay and have increasingly been recognized as causes for major NCDs such as  
31 diabetes and obesity<sup>32</sup>.

32 The WHO guideline recommends that the daily intake of free sugars be limited to less than 10% of  
33 total energy intake, which equates to 12 teaspoons for adults and 6 teaspoons for children. A  
34 further reduction to below 5% of total energy intake (6 teaspoons for adults and 3 teaspoons for  
35 children) would provide additional health benefits and help minimize the risk of dental caries  
36 throughout the life course. Worldwide consumption has tripled over the past 50 years, and this  
37 increase is expected to continue: currently more than twenty-five countries exceed 100 grams of  
38 sugar consumption daily<sup>33</sup>.



## 39 **FDI position**

40 Because excessive sugar consumption is the main cause of dental caries, showing a clear dose-  
41 effect relationship and a major factor in the aetiology of a wide range of NCDs<sup>28</sup>, this position  
42 statement recommends key principles to address this global public health challenge.

- 43 • Every country should have a policy which addresses sugar consumption by 2030. By  
44 promoting oral health in all policies and sectors, the overall health and well-being of  
45 populations can be improved.
- 46 • Population-wide strategies and policies to reduce sugar consumption as part of a healthy  
47 diet across the life course have the highest potential to promote better oral health and  
48 prevent other NCDs.
- 49 • Working with other NCD partners to push for fiscal and legislative measures to implement  
50 the WHO recommendations on sugars is key to helping to address this common risk factor.
- 51 • Strategies to address the commercial determinants of health and efforts by industry to  
52 interfere with measures to reduce the consumption of foods and drinks high in free sugar  
53 are essential to protecting the health of populations.
- 54 • Sugar is a leading risk factor for tooth decay. Reducing its production, marketing and  
55 consumption will reduce oral diseases, diabetes, obesity and other NCDs<sup>1</sup>.

## 56 **Policies and guidelines to reduce global sugar consumption**

- 57 • The WHO Guideline on sugars intake for adults and children should be implemented  
58 through international, national, and local food policies.
- 59 • Reducing sugar consumption as a central element of an integrated food policy, which  
60 seeks to create a supportive and sustainable environment conducive to good health is  
61 essential and will have a significant impact on helping to curb the global epidemic of dental  
62 caries and NCDs more broadly<sup>30,32</sup>.
- 63 • Taxes on sugar-sweetened beverages (SSBs) and on foods high in sugars should be  
64 implemented in line with WHO recommendations because they are shown to be effective in  
65 reducing dietary sugar intake<sup>32</sup> and the income generated should be invested in NCD and  
66 oral disease prevention strategies.
- 67 • Integrated approaches to nutrition counselling should be explored by addressing general  
68 health aspects and those linked with oral health should be implemented.
- 69 • The sponsoring of health, sporting and corporate events by producers of unhealthy food  
70 and beverage should be banned and all medical congresses should be SSB free events.

## 71 **Leveraging the human resources for health**

- 72 • Primary health care workers including dentists, dental teams, and public health  
73 practitioners play an important role in delaying sugar consumption in the very young and  
74 must play a leadership role in the promotion of healthy food policies and lobbying key  
75 decision makers on the regulatory changes needed<sup>30,31</sup>.
- 76 • Dental associations and, associations representing other health professionals as well as  
77 international agencies should advocate for and support integrated strategies to reduce free  
78 sugars consumption addressing equitable access to appropriate oral healthcare, oral health  
79 literacy, health promotion, policy implementation, health surveillance and monitoring.

## 80 **Promoting industry accountability**



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- Systematic, easy-to-understand, food labelling should be implemented to encourage informed consumer choices. In addition simplified nutrition guidelines, including sugar content of foods, should be provided to promote healthy eating and drinking. Industry compliance should be enforced.
  - Sugar in baby foods should be eliminated and strongly regulated and children should not be exposed to free sugars in their diet before the age of 24 months<sup>32,33</sup>.
  - Sales of foods and drinks high in free sugar should be restricted and products reformulated to reduce levels. In addition the portion and package sizes should be limited to reduce energy intake.
  - Pharmaceutical companies should reduce the production of sugar sweetened medicines<sup>28</sup>.

91 **Healthy schools, hospitals, and workplaces**

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- Preschools and schools should adopt policies to reduce free sugar consumption; sugary drinks and unhealthy snacks should be banned in pre-schools/schools and healthy meal options made available.
  - Preschools and schools should incorporate lessons on nutrition and healthy eating into the curriculum as well as help raise awareness among parents to improve oral health literacy.
  - Policies to reduce availability of free sugars such as “water only” policies should be introduced in schools, dental clinics, hospitals, workplaces, and other institutions.
  - Tighter regulations on the advertising, promotion and labelling of food and drinks containing free sugars, especially those targeting children and young adults, should be enforced.
  - Employee wellness programmes that focus on healthy habits, such as exercise and healthy eating, and provide resources and education on reducing sugar intake should be encouraged.
  - World Oral Health Day on 20 March should be recognized by countries as an official date in the calendar and celebrated annually to support local, national, and regional health promotion efforts.

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## 108 **References**

- 109 1. Global oral health status report: towards universal health coverage for oral health by 2030.  
110 Geneva: World Health Organisation; 2022.
- 111 2. Draft Global Strategy on Oral Health [Internet]. Geneva: World Health Organisation; [cited 2021  
112 Aug 27]. Report No.: 09 August 2021. Available from: [https://cdn.who.int/media/docs/default-](https://cdn.who.int/media/docs/default-source/searo/india/health-topic-pdf/noncommunicable-diseases/draft-discussion-paper--annex-3-(global-strategy-on-oral-health)-.pdf)  
113 [source/searo/india/health-topic-pdf/noncommunicable-diseases/draft-discussion-paper--annex-3-](https://cdn.who.int/media/docs/default-source/searo/india/health-topic-pdf/noncommunicable-diseases/draft-discussion-paper--annex-3-(global-strategy-on-oral-health)-.pdf)  
114 [\(global-strategy-on-oral-health\)-.pdf](https://cdn.who.int/media/docs/default-source/searo/india/health-topic-pdf/noncommunicable-diseases/draft-discussion-paper--annex-3-(global-strategy-on-oral-health)-.pdf)
- 115 3. Jin L, Lamster I, Greenspan J, Pitts N, Scully C, Warnakulasuriya S. Global burden of oral  
116 diseases: emerging concepts, management and interplay with systemic health. *Oral Dis*.  
117 2016;22(7):609–19.
- 118 4. Peres MA, Macpherson LMD, Weyant RJ, Daly B, Venturelli R, Mathur MR, et al. Oral diseases:  
119 a global public health challenge. *The Lancet*. 2019 Jul 20;394(10194):249–60.
- 120 5. Huang Y, Cai X, Mai W, Li M, Hu Y. Association between prediabetes and risk of cardiovascular  
121 disease and all cause mortality: systematic review and meta-analysis. *BMJ*. 2016 Nov  
122 23;355:i5953.
- 123 6. Srour B, Fezeu LK, Kesse-Guyot E, Allès B, Méjean C, Andrianasolo RM, et al. Ultra-processed  
124 food intake and risk of cardiovascular disease: prospective cohort study (NutriNet-Santé). *BMJ*.  
125 2019 May 29;365:l1451.
- 126 7. Nestel PJ, Beilin LJ, Clifton PM, Watts GF, Mori TA. Practical Guidance for Food Consumption  
127 to Prevent Cardiovascular Disease. *Heart Lung Circ*. 2021 Feb 1;30(2):163–79.
- 128 8. Malik VS, Hu FB. Sugar-Sweetened Beverages and Cardiometabolic Health: An Update of the  
129 Evidence. *Nutrients*. 2019 Aug;11(8):1840.
- 130 9. Micha R, Shulkin ML, Peñalvo JL, Khatibzadeh S, Singh GM, Rao M, et al. Etiologic effects and  
131 optimal intakes of foods and nutrients for risk of cardiovascular diseases and diabetes:  
132 Systematic reviews and meta-analyses from the Nutrition and Chronic Diseases Expert Group  
133 (NutriCoDE). *PLOS ONE*. 2017 Apr 27;12(4):e0175149.
- 134 10. Weihrauch-Blüher S, Schwarz P, Klusmann JH. Childhood obesity: increased risk for  
135 cardiometabolic disease and cancer in adulthood. *Metabolism*. 2019 Mar 1;92:147–52.
- 136 11. Dandamudi A, Tommie J, Nommsen-Rivers L, Couch S. Dietary Patterns and Breast Cancer  
137 Risk: A Systematic Review. *Anticancer Res*. 2018 Jun 1;38(6):3209–22.
- 138 12. Malik VS, Hu FB. The role of sugar-sweetened beverages in the global epidemics of obesity and  
139 chronic diseases. *Nat Rev Endocrinol*. 2022 Apr;18(4):205–18.
- 140 13. Mboge MY, Bissell MJ. The not-so-sweet side of sugar: Influence of the microenvironment on  
141 the processes that unleash cancer. *Biochim Biophys Acta BBA - Mol Basis Dis*. 2020 Dec  
142 1;1866(12):165960.



- 143 14. Feng L, Gao J, Xia W, Li Y, Lowe S, Yau V, et al. Association of sugar-sweetened beverages  
144 with the risk of colorectal cancer: a systematic review and meta-analysis. *Eur J Clin Nutr.* 2023  
145 Jul 12;1–12.
- 146 15. Liberali R, Kupek E, Assis MAA de. Dietary Patterns and Childhood Obesity Risk: A Systematic  
147 Review. *Child Obes.* 2020 Mar;16(2):70–85.
- 148 16. Poorolajal J, Sahraei F, Mohamdadi Y, Doosti-Irani A, Moradi L. Behavioral factors influencing  
149 childhood obesity: a systematic review and meta-analysis. *Obes Res Clin Pract.* 2020 Mar  
150 1;14(2):109–18.
- 151 17. Bleich SN, Vercammen KA. The negative impact of sugar-sweetened beverages on children’s  
152 health: an update of the literature. *BMC Obes.* 2018 Feb 20;5(1):6.
- 153 18. Nakhimovsky SS, Feigl AB, Avila C, O’Sullivan G, Macgregor-Skinner E, Spranca M. Taxes on  
154 Sugar-Sweetened Beverages to Reduce Overweight and Obesity in Middle-Income Countries: A  
155 Systematic Review. *PLOS ONE.* 2016 Sep 26;11(9):e0163358.
- 156 19. Faruque S, Tong J, Lacmanovic V, Agbonghae C, Minaya DM, Czaja K. The Dose Makes the  
157 Poison: Sugar and Obesity in the United States – a Review. *Pol J Food Nutr Sci.*  
158 2019;69(3):219–33.
- 159 20. Ruanpeng D, Thongprayoon C, Cheungpasitporn W, Harindhanavudhi T. Sugar and artificially  
160 sweetened beverages linked to obesity: a systematic review and meta-analysis. *QJM Int J Med.*  
161 2017 Aug 1;110(8):513–20.
- 162 21. Hu FB. Resolved: there is sufficient scientific evidence that decreasing sugar-sweetened  
163 beverage consumption will reduce the prevalence of obesity and obesity-related diseases. *Obes*  
164 *Rev.* 2013;14(8):606–19.
- 165 22. Xi B, Li S, Liu Z, Tian H, Yin X, Huai P, et al. Intake of Fruit Juice and Incidence of Type 2  
166 Diabetes: A Systematic Review and Meta-Analysis. *PLOS ONE.* 2014 Mar 28;9(3):e93471.
- 167 23. Neelakantan N, Park SH, Chen GC, van Dam RM. Sugar-sweetened beverage consumption,  
168 weight gain, and risk of type 2 diabetes and cardiovascular diseases in Asia: a systematic  
169 review. *Nutr Rev.* 2022 Jan 1;80(1):50–67.
- 170 24. DiNicolantonio JJ, O’Keefe JH, Lucan SC. Added Fructose: A Principal Driver of Type 2  
171 Diabetes Mellitus and Its Consequences. *Mayo Clin Proc.* 2015 Mar 1;90(3):372–81.
- 172 25. Qin P, Li Q, Zhao Y, Chen Q, Sun X, Liu Y, et al. Sugar and artificially sweetened beverages and  
173 risk of obesity, type 2 diabetes mellitus, hypertension, and all-cause mortality: a dose–response  
174 meta-analysis of prospective cohort studies. *Eur J Epidemiol.* 2020 Jul 1;35(7):655–71.
- 175 26. Tseng TS, Lin WT, Gonzalez GV, Kao YH, Chen LS, Lin HY. Sugar intake from sweetened  
176 beverages and diabetes: A narrative review. *World J Diabetes.* 2021 Sep 15;12(9):1530–8.
- 177 27. Imamura F, O’Connor L, Ye Z, Mursu J, Hayashino Y, Bhupathiraju SN, et al. Consumption of  
178 sugar sweetened beverages, artificially sweetened beverages, and fruit juice and incidence of



- 179 type 2 diabetes: systematic review, meta-analysis, and estimation of population attributable  
180 fraction. *Br J Sports Med.* 2016 Apr 1;50(8):496–504.
- 181 28. Guideline: sugars intake for adults and children [Internet]. [cited 2022 Nov 3]. Available from:  
182 <https://www.who.int/publications-detail-redirect/9789241549028>
- 183 29. Dietary Free Sugars and Dental Caries. Policy Statement. FDI World Dental Federation; 2015.
- 184 30. Glick M, Williams DM, Yahya IB, Bondioni E, Clark P, Jagait CK, et al. Delivering Optimal Oral  
185 Health for All. :52.
- 186 31. Global Oral Health Action Plan (2023-2030) [Internet]. World Health Organisation; 2023.  
187 Available from: [https://www.who.int/publications/m/item/draft-global-oral-health-action-plan-](https://www.who.int/publications/m/item/draft-global-oral-health-action-plan-(2023-2030))  
188 [https://www.who.int/publications/m/item/draft-global-oral-health-action-plan-](https://www.who.int/publications/m/item/draft-global-oral-health-action-plan-(2023-2030))  
(2023-2030)
- 189 32. WHO manual on sugar-sweetened beverage taxation policies to promote healthy diets [Internet].  
190 [cited 2023 Jan 30]. Available from: [https://www.who.int/publications-detail-](https://www.who.int/publications-detail-redirect/9789240056299)  
191 [redirect/9789240056299](https://www.who.int/publications-detail-redirect/9789240056299)
- 192 33. The challenge of oral disease - A call for global action. 2nd ed. Geneva: FDI World Dental  
193 Federation; 2015.
- 194