Supplementary material available online

Appendix

Appendix 1. Electronic search strategy

Source	Limits	Bolean search
Medline (free access through web) http://www.ncbi.nlm.nih.gov/pubmed	Limits: Humans, English, Dental journals, All Adult: 19+ years, Publication Date from 1991/01/01 to 2011/06/30, Title/Abstract, Any Type of Article	Boolean search for: ((Cigarette smoking) OR (Tobacco smoking) OR (Smoking, Tobacco) OR (Nicotine dependence) OR (Nicotine use disorder) OR (Tobacco dependence) OR (Tobacco use disorder)) AND ((Dental caries) OR (Dental decay) OR (DMF index) OR (Cariogenic agents) OR (Saliva) OR (Salivary glands) OR (Xerostomia) OR (Salivation) OR (Immunoglobulin A secretory) OR (Sialadenitis) OR (Gingival exudate) OR (Strep mutans))
Embase (accessed through the University of Milan website - http://www.unimi.it/)	Advanced search–Limits: Publication Date from 1991/01/01 to 2011/06/30, no sub-term derivates, humans, with abstract, in English, field limits (abstract; article title), adults + aged > 65, publication type (article), evidence-based medicine (no limits)	Boolean search for: ((Cigarette smoking) OR (Tobacco smoking) OR (Nicotine dependence) OR (Nicotine use disorder) OR (Tobacco dependence) OR (Tobacco use disorder)) AND ((Dental caries) OR (Dental decay) OR (DMF index) OR (Cariogenic agents) OR (Saliva) OR (Salivary glands) OR (Xerostomia) OR (Salivation) OR (Immunoglobulin A secretory) OR (Sialadenitis) OR (Gingival exudate) OR (Strep mutans) OR (Gums) OR (Gingiva) OR (Interdental papilla) OR (Gingivitis) OR (Gingival disease) OR (Periodontitis) OR (Periodontal attachment loss) OR (Periodontal disease))
Cochrane http://onlinelibrary.wiley.com/o/cochrane/cochrane_clcentral_articles_fs.html		
Google scholar http://scholar.google.it/		

Appendix 2. Excluded abstracts with reason for exclusion

Authors	Title	Reference	Reason for exclusion
Ditmyer et al.	A case-control study of determinants for high and low dental caries prevalence in Nevada youth	BMC Oral Health 2010;10:24	1
Buduneli et al.	Fatty acid profiles in smokers with chronic periodontitis	J Dent Res 2011;90:47–52	2
Rikardsson et al.	Perceived oral health in patients with Crohn's disease	Oral Health Prev Dent 2009;7:277–82	3
Agnihotri et al.	Association of cigarette smoking with superoxide dismutase enzyme levels in subjects with chronic periodontitis	J Periodontol 2009;80:657–62	2
Campisi et al.	Risk factors of oral candidosis: a two-fold approach of study by fuzzy logic and traditional statistic	Arch Oral Biol 2008;53:388–97	2
Kanehira et al.	Comparison of antioxidant enzymes in saliva of elderly smokers and non-smokers	Gerodontology 2006;23:38–42	2
Susin et al.	Tooth loss and associated risk indicators in an adult urban population from south Brazil	Acta Odontol Scand 2005;63:85–93	2
Ayo-Yusuf	WHO framework convention on tobacco control and its relevance to the dental professions in South Africa	SADJ 2005;60:202–4	4
MacEntee	A look at the (near) future based on the (recent) past—how our patients have changed and how they will change	J Can Dent Assoc 2005;71:331	2

Appendix 2. (*Continued*).

Authors	Title	Reference	Reason for exclusion
Imirzalioglu et al.	Cigarette smoking and apoptosis	J Periodontol 2005;76:737–9	2
Shieh et al.	Effects of arecoline, safrole and nicotine on collagen phagocytosis by human buccal mucosal fibroblasts as a possible mechanism for oral submucous fibrosis in Taiwan	J Oral Pathol Med 2004;33:581–7	2
Binnie et al.	The validation of self-reported smoking status by analysing cotinine levels in stimulated and unstimulated saliva, serum and urine	Oral Dis 2004;10:287–93	2
Sewón et al.	Salivary calcium reflects skeletal bone density of heavy smokers	Arch Oral Biol 2004;49:355–8	2
Chen et al.	Cigarette smoking, salivary/gingival crevicular fluid cotinine and periodontal status. A 10-year longitudinal study	J Clin Periodontol 2001;28:331–9	2
Morris et al.	The epidemiology of lip, oral cavity and pharyngeal cancers in Kuwait 1979-1988	Br J Oral Maxillofac Surg 2000;38:316–9	2
Pauletto et al.	Effect of cigarette smoking on oral elastase activity in adult periodontitis patients	J Periodontol 2000;71:58–62	2
Liede et al.	The association between smoking cessation and periodontal status and salivary proteinase levels	J Periodontol 1999;70:1361–8	2
Zappacosta et al.	Effect of smoking one cigarette on antioxidant metabolites in the saliva of healthy smokers	Arch Oral Biol 1999;44:485–8	2
Soetiarto	The relationship between habitual clove cigarette smoking and a specific pattern of dental decay in male bus drivers in Jakarta, Indonesia	Caries Res 1999;33:248–50	2
Norhagen Engström et al.	Effects of tobacco smoking on salivary immunoglobulin levels in immunodeficiency.	Eur J Oral Sci 1998;106:986–91	3
Ryder et al.	Alterations of neutrophil L-selectin and CD18 expression by tobacco smoke: implications for periodontal diseases	J Periodontal Res 1998;33:359–68	2
Mang et al.	Primary biliary cirrhosis, sicca complex and dysphagia	Dysphagia 1997;12:167–70	2
Ko et al.	Betel quid chewing, cigarette smoking and alcohol consumption related to oral cancer in Taiwan	J Oral Pathol Med 1995;24:450–3	2
Hirsch et al.	Tobacco habits among teenagers in the city of Göteborg, Sweden, and possible association with dental caries	Swed Dent J 1991;15:117–23	2
Etter et al.	Association of genes coding for the (alpha)-4, (alpha)-5, (beta)-2 and (beta)-3 sub-units of nicotinic receptors with cigarette smoking and nicotine dependence	Addictive Behaviors 2009;34:772–5	2
Shahab et al.	A comparison of exposure to carcinogens among roll-your-own and factory-made cigarette smokers	Addiction Biol 2009;14:315–20	2
Llewellyn et al.	Exposure to secondhand smoke and cognitive impairment in non-smokers: National cross-sectional study with cotinine measurement	BMJ 2009;338:7695	2
Bacha et al.	Saliva cotinine and exhaled carbon monoxide levels in natural environment waterpipe smokers	Inhalation Toxicol 2007;19:771–7	2
Guggenheimer et al.	Dental health status of liver transplant candidates	Liver Transp 2007;13:280–6	2
Huang et al.	The psychometric properties of the Chinese version of the Fagerstrom Test for Nicotine Dependence	Addictive Behaviors 2006;31:2324–7	2
Repace et al.	Correlating atmospheric and biological markers in studies of secondhand tobacco smoke exposure and dose in children and adults	J Occup Environ Med 2006;48:181–94	2

Appendix 2. (*Continued*).

Authors	Title	Reference	Reason for exclusion
Salaspuro et al.	Eliminating carcinogenic acetaldehyde by cysteine from saliva during smoking	Cancer Epidemiol Biomarkers Prev 2006;15:146–9	2
Salaspuro et al.	Synergistic effect of alcohol drinking and smoking on *in vivo* acetaldehyde concentration in saliva	Int J Cancer 2004;111:480–3	2
Dempsey et al.	Nicotine metabolite ratio as an index of cytochrome P450 2A6 metabolic activity	Clin Pharmacol Ther 2004;76:64–72	2
Bozikas et al.	Smoking impact on CYP1A2 activity in a group of patients with schizophrenia	Eur Neuropsychopharmacol 2004;14:39–44	2
Fisher et al.	Phase III quality-of-life study results: Impact on patients' quality-of-life to reducing xerostomia after radiotherapy for head-and-neck cancer—RTOG 97-09	Int J Radiat Oncol Biol Phys 2003;56:832–6	2
Jarvis et al.	Measuring nicotine intake in population surveys: Comparability of saliva cotinine and plasma cotinine estimates	Nicotine Tobacco Res 2003;5:349–55	2
Arcury et al.	High levels of transdermal nicotine exposure produce green tobacco sickness in Latino farmworkers	Nicotine Tobacco Res 2003;5:315–21	2
Jaakkola et al.	Determinants of salivary cotinine concentrations in Chinese male smokers	Preventive Med 2003;36:282–90	2
Teneggi et al.	Correlation and predictive performances of saliva and plasma nicotine concentration on tobacco withdrawal-induced craving	Br J Clin Pharmacol 2002;54:407–14	2
Shafagoj et al.	Hubble-bubble (water pipe) smoking: Levels of nicotine and cotinine in plasma, saliva and urine	Int J Clin Pharmacol Ther 2002;40:249–55	2
Quandt et al.	Environmental and behavioral predictors of salivary cotinine in Latino tobacco workers	J Occup Environ Med 2001;43:844–52	2
Cope et al.	Near-patient test for nicotine and its metabolites in saliva to assess smoking habit	Ann Clin Biochem 2000;37:666–73	2
Manthorpe et al.	Lower frequency of focal lip sialadenitis (focus score) in smoking patients. Can tobacco diminish the salivary gland involvement as judged by histological examination and anti-SSA/Ro and anti-SSB/La antibodies in Sjogren's syndrome?	Ann Rheumatic Dis 2000;59:54–60	2
Hayes et al.	Tobacco and alcohol use and oral cancer in Puerto Rico	Cancer Causes Contr 1999;10:27–33	2
Etter et al.	Validity of the Fagerstrom test for nicotine dependence and of the heaviness of smoking index among relatively light smokers	Addiction 1999;94:269–81	2
Levi et al.	Incidence of invasive cancers following squamous cell skin cancer	Am J Epidemiol 1997;146:734–9	2
Salin-Pascual et al.	Antidepressant effect of transdermal nicotine patches in non-smoking patients with major depression	J Clin Psychiatry 1996;57:387–9	2
Muir et al.	Upper aerodigestive tract cancers	Cancer 1995;75(Suppl);147–53	2
Idris et al.	Toombak: A major risk factor for cancer of the oral cavity in Sudan	Preventive Med 1994;23:832–9	2
Emmons et al.	Improvement in pulmonary function following smoking cessation	Addictive Behaviors 1992;17:301–6	2
Stich et al.	Localized formation of micronuclei in the oral mucosa and tobacco-specific nitrosamines in the saliva of 'reverse' smokers, Khaini-tobacco chewers and gudakhu users	Int J Cancer. 1992;50:172–6	2

Reasons for exclusion: (1) Subjects < 18 years of age; (2) Irrelevant topic; (3) Affected patients; (4) Not article/review.

Appendix 3. Grading for the quality of evidence according to the GRADE working group

Factors raising quality		Factors lowering quality	
Large effect	Large, + 1 Very large, + 2	Limitation of design	Serious, – 1 Very serious, – 2
Dose response	Evidence of a gradient, + 1	Inconsistency of results	Serious, – 1 Very serious, – 2
Possible confounding	Reduce a demonstrated effect, + 1 Suggest a spurious effect when result show no effect, + 1	indirectness of evidence	Serious, – 1 Very serious, – 2
		Imprecision	Serious, – 1 Very serious, – 2
		Publication bias	Likely, – 1 Very likely, – 2
Quality based on study design			
Randomized trials		High, – 4	
		Moderate, – 3	
Observational studies		Low, – 2	
		Very low, – 1	

Appendix 4. Retrieved full-text articles with reason for exclusion

Authors	Title	Reference	Reason for exclusion
Billings et al.	Xerostomia and associated factors in a community-dwelling adult population	Comm Dent Oral Epidemiol 1996;24:312–6	Smoking confounders and methodological limitations
Hart et al.	Tobacco use and dental disease	J Tenn Dent Assoc 1995;75:25–7	Smoking confounders and methodological limitations
Heidari et al.	Verifiable CPD paper: oral health of remand prisoners in HMP Brixton, London	Br Dent J 2007;202:E1	Affected patients; no data analysis; different outcomes
Iida et al.	Effect of tobacco smoke on the oral health of US women of childbearing age	J Public Health Dent 2009;69:231–41	Mixing < 18 years with elders
Jette et al.	Tobacco use: A modifiable risk factor for dental disease among the elderly	Am J Public Health 1993;83:1271–6	Affected patients
Laine et al.	Salivary variables in relation to tobacco smoking and female sex steroid hormone-use in 30–59-year-old women	Acta Odontol Scand 2002;60:237–40	Affected and medicated patients
Pearson et al.	Dental health and treatment needs among a sample of Bangladeshi medical users aged 40 years and over living in Tower Hamlets, UK	Int Dent J 2001;51:23–9	Smoking confounders and methodological limitations
Unell et al.	Explanatory models for clinically determined and symptom-reported caries indicators in an adult population	Acta Odontol Scand 1999;57:132–8	Smoking confounders and methodological limitations
Wikner et al.	Factors associated with salivary buffering capacity in young adults in Stockholm, Sweden	Scand J Dent Res 1994;102:50–3	Smoking confounders and methodological limitations
Ylöstalo et al.	The relation of tobacco smoking to tooth loss among young adults	Eur J Oral Sci 2004;112:121–6	Different outcome