

Supplementary Tables

Supplementary Table 1. Descriptive statistics for HNSCC patients from the INHANCE Consortium studies by patient-reported gingival bleeding, tooth brushing frequency and mouthwash use.

	Entire sample	Patient-reported gingival bleeding		Tooth brushing frequency		Mouthwash use	
		<i>N</i> (%)	No (%)	Yes (%)	<1 time daily (%)	1+ time(s) daily (%)	No (%)
Total	2449 (100)	1590 (100)	647 (100)	1224 (100)	533 (100)	962 (100)	824 (100)
Age, years; μ (SD)	59.8 (10.5)	59 (11)	60 (10)	59 (10)	58 (10)	60 (10)	59 (10)
Sex							
Female	528 (22)	330 (21)	150 (23)	273 (22)	82 (15)	177 (18)	176 (21)
Male	1921 (78)	1260 (79)	497 (77)	951 (78)	451 (85)	785 (82)	648 (79)
Race							
Asian & Pacific Islanders	16 (1)	13 (1)	1 (0)	0 (0)	3 (1)	1 (0)	2 (0)
Black	320 (13)	228 (14)	87 (13)	259 (21)	54 (10)	118 (12)	201 (24)
Brazilian	2 (9)	2 (0)	0 (0)	0 (0)	2 (0)	2 (0)	0 (0)
Others	138 (6)	98 (6)	34 (5)	39 (3)	86 (16)	93 (10)	42 (5)
White	1973 (81)	1249 (79)	525 (81)	926 (76)	388 (73)	748 (78)	579 (70)
Smoking status							
Never smoker	355 (14)	260 (16)	60 (9)	154 (13)	52 (10)	103 (11)	96 (12)
Former smoker	816 (33)	506 (32)	216 (33)	304 (25)	137 (26)	255 (27)	206 (25)
Current smoker	1278 (52)	824 (52)	371 (57)	766 (63)	344 (65)	604 (63)	522 (63)
Education level							
≤Junior high school	333 (14)	165 (10)	90 (14)	105 (9)	125 (23)	195 (20)	54 (7)
Some high school	945 (39)	648 (41)	216 (33)	341 (28)	291 (55)	388 (40)	271 (33)
High school graduate	466 (19)	311 (20)	142 (22)	327 (27)	66 (12)	157 (16)	235 (29)
Technical school	431 (18)	285 (18)	131 (20)	289 (24)	40 (8)	141 (15)	178 (22)
≥College graduate	274 (11)	181 (11)	68 (11)	162 (13)	11 (2)	81 (8)	86 (10)
TNM stage							
I	458 (19)	282 (18)	130 (20)	258 (21)	40 (8)	148 (15)	155 (19)
II	407 (17)	242 (15)	126 (19)	228 (19)	66 (12)	153 (16)	143 (17)
III	391 (16)	261 (16)	101 (16)	211 (17)	79 (15)	160 (17)	137 (17)
IV	1193 (49)	805 (51)	290 (45)	527 (43)	348 (65)	501 (52)	389 (47)
Tumor site							
Oral cavity	621 (25)	386 (24)	159 (25)	200 (16)	202 (38)	249 (26)	169 (21)
Oropharynx	744 (30)	512 (32)	175 (27)	330 (27)	141 (26)	263 (27)	211 (26)
Hypopharynx /Larynx	865 (35)	541 (34)	246 (38)	486 (40)	180 (34)	364 (38)	313 (38)
HNSCC NOS	219 (9)	151 (9)	67 (10)	208 (17)	10 (2)	86 (9)	131 (16)
Treatment							
Surgery	484 (20)	341 (21)	115 (18)	264 (22)	73 (14)	173 (18)	174 (21)
Surgery+aRT	444 (18)	303 (19)	121 (19)	258 (21)	102 (19)	180 (19)	187 (23)

Surgery+CRT	307 (13)	215 (14)	73 (11)	163 (13)	78 (15)	128 (13)	117 (14)
Surgery+Chemo	9 (0)	4 (0)	3 (0)	3 (0)	4 (1)	7 (1)	2 (0)
Chemo only	82 (3)	40 (3)	24 (4)	15 (1)	48 (9)	54 (6)	2 (0)
Radiation only	366 (15)	228 (14)	108 (17)	197 (16)	46 (9)	120 (12)	129 (16)
CRT, no surgery	656 (27)	404 (25)	182 (28)	303 (25)	128 (24)	240 (25)	202 (25)
No treatment	101 (4)	55 (3)	21 (3)	21 (2)	54 (10)	60 (6)	11 (1)

HNSCC NOS: Head and Neck Squamous Cell Carcinoma Not otherwise specified; aRT: Adjuvant radiotherapy.

Supplementary Table 2. Descriptive statistics for HNSCC patients from the INHANCE Consortium studies by missing teeth and dental visits during the past 10 years.

		Entire sample	Natural teeth			Dental visits during the past 10 years			
		<i>N</i> (%)	0 (%)	1-9 (%)	10-19 (%)	20+ (%)	0 (%)	1-5 (%)	>5 (%)
Total		2449 (100)	395 (100)	166 (100)	312 (100)	864 (100)	305 (100)	661 (100)	482 (100)
Age, years; mean (SD)		59.8 (10.5)	63 (9)	63 (9)	61 (9)	58 (11)	60 (10)	59 (10)	58 (11)
Sex									
	Female	528 (22)	107 (27)	42 (25)	69 (22)	190 (22)	66 (22)	123 (19)	112 (23)
	Male	1921 (78)	288 (73)	124 (75)	243 (78)	674 (78)	239 (78)	538 (81)	370 (77)
Race									
	White	1973 (81)	314 (79)	134 (81)	262 (84)	717 (83)	242 (79)	493 (75)	438 (91)
	Black	320 (13)	74 (19)	28 (17)	45 (14)	123 (14)	42 (14)	77 (12)	25 (5)
	Asian & Pacific Islanders	16 (1)	1 (0)	0 (0)	4 (1)	8 (1)	0 (0)	1 (0)	2 (0)
	Others	138 (6)	6 (2)	4 (2)	1 (0)	16 (2)	21 (7)	89 (13)	16 (3)
	Brazilian	2 (9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)
Smoking status									
	Never smoker	355 (14)	33 (8)	19 (11)	50 (16)	188 (22)	21 (7)	68 (10)	108 (22)
	Former smoker	816 (33)	120 (30)	59 (36)	129 (41)	314 (36)	74 (24)	177 (27)	156 (32)
	Current smoker	1278 (52)	242 (61)	88 (53)	133 (43)	362 (42)	210 (69)	416 (63)	218 (45)
Education level									
	≤Junior high school	333 (14)	47 (12)	13 (8)	11 (4)	33 (4)	57 (19)	163 (25)	30 (6)
	Some high school	945 (39)	158 (40)	66 (40)	114 (37)	244 (28)	137 (45)	290 (44)	68 (14)
	High school graduate	466 (19)	83 (21)	35 (21)	77 (25)	204 (24)	58 (19)	90 (14)	113 (23)
	Technical school	431 (18)	68 (17)	40 (24)	67 (21)	213 (25)	42 (14)	82 (12)	148 (31)
	≥College graduate	274 (11)	39 (10)	12 (7)	43 (14)	170 (20)	11 (4)	36 (5)	123 (26)
TNM stage									
	I	458 (19)	89 (23)	39 (23)	73 (23)	190 (22)	43 (14)	90 (14)	116 (24)
	II	407 (17)	83 (21)	41 (25)	52 (17)	140 (16)	58 (19)	83 (13)	82 (17)
	III	391 (16)	67 (17)	22 (13)	54 (17)	137 (16)	49 (16)	100 (15)	82 (17)
	IV	1193 (49)	156 (39)	64 (39)	133 (43)	397 (46)	155 (51)	388 (59)	202 (42)
Tumor site									
	Oral cavity	621 (25)	83 (21)	28 (17)	64 (12)	157 (18)	86 (28)	225 (34)	81 (17)
	Oropharynx	744 (30)	90 (23)	46 (28)	119 (38)	313 (36)	68 (22)	168 (25)	162 (34)
	Hypopharynx /Larynx	865 (35)	180 (46)	77 (46)	106 (34)	261 (30)	124 (41)	231 (35)	151 (31)

	HNSCC NOS	219 (9)	42 (11)	15 (9)	23 (7)	133 (15)	27 (9)	37 (6)	88 (18)
Treatment									
	Surgery	484 (20)	84 (21)	34 (20)	71 (23)	203 (23)	56 (18)	89 (13)	117 (24)
	Surgery+aRT	444 (18)	89 (23)	34 (20)	53 (17)	154 (18)	61 (20)	107 (16)	102 (21)
	Surgery+CRT	307 (13)	39 (10)	14 (8)	35 (11)	126 (15)	40 (13)	90 (14)	73 (15)
	Surgery+Chemo	9 (0)	0 (0)	0 (0)	0 (0)	2 (0)	2 (1)	5 (1)	2 (0)
	Chemo only	82 (3)	0 (0)	2 (1)	0 (0)	2 (0)	20 (7)	49 (7)	11 (2)
	Radiation only	366 (15)	86 (22)	36 (22)	65 (21)	128 (15)	39 (13)	77 (12)	56 (12)
	CRT, no surgery	656 (27)	95 (24)	45 (27)	88 (28)	246 (28)	67 (22)	179 (27)	108 (22)
	No treatment	101 (4)	2 (1)	1 (1)	0 (0)	3 (0)	20 (7)	65 (10)	13 (3)

HNSCC NOS: Head and Neck Squamous Cell Carcinoma Not otherwise specified; aRT: Adjuvant radiotherapy.

Supplementary Table 3. Association of measures of oral health measures with overall survival estimated with a generalized linear regression model using log link function and Poisson Family regression in HNSCC patients from the INHANCE Consortium studies. All sites column is adjusted for age, sex, race, geographic region, tumor site, TNM stage, treatment, education, and smoking. Europe, North America and South America columns are adjusted for age, sex, race, tumor site, TNM stage, treatment, education, and smoking.

Geographic region	All regions		Europe		North America		South America	
	RR	95% CI	RR	95% CI	RR	95% CI	RR	95% CI
Patient reported gingival bleeding								
No	Ref.		<i>Ref.</i>		Ref.		<i>Ref.</i>	
Yes	1.04	(0.95-1.14)	1.18	(0.92-1.51)	0.98	(0.89-1.09)	0.92	(0.66-1.29)
Tooth brushing								
<1 time daily	Ref.		<i>Ref.</i>		Ref.		<i>Ref.</i>	
1+ time(s) daily	0.90	(0.74-1.09)	1.21	(0.86-1.71)	0.93	(0.71-1.21)	0.72	(0.50-1.03)
Mouthwash								
No	Ref.		<i>Ref.</i>		Ref.		<i>Ref.</i>	
Yes	1.07	(0.98-1.18)	NE		1.06	(0.96-1.16)	1.23	(0.93-1.63)
Natural teeth								
0	Ref.		<i>Ref.</i>		Ref.		<i>Ref.</i>	
1-9	0.90	(0.76-1.06)	0.97	(0.55-1.70)	0.89	(0.76-1.05)	NE	
10-19	0.81	(0.69-0.95)	0.89	(0.56-1.40)	0.83	(0.70-0.97)	NE	
20+	0.88	(0.78-0.99)	1.05	(0.68-1.60)	0.88	(0.78-0.99)	NE	
Dental visits during the last 10 years								
0	Ref.		<i>Ref.</i>		Ref.		<i>Ref.</i>	
1-5	0.95	(0.82-1.09)	1.11	(0.82-1.50)	0.98	(0.82-1.17)	0.83	(0.62-1.10)
>5	0.77	(0.66-0.91)	0.93	(0.54-1.61)	0.83	(0.70-0.99)	0.48	(0.27-0.88)

RR: Risk Ratio; CI: Confidence Intervals; Ref.: Reference; HNSCC NOS: Head and Neck Squamous Cell Carcinoma Not otherwise specified.