

# **The Association between Ambient Fine Particulate Matter and Oral Neoplasm among Smokers and Betel Quids Chewers**

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**Table S1. Distribution of PM<sub>2.5</sub> by county/city (OPMD+OC)**

County/City	N	Means	SD	Min	Q1	Median	Q3	Max
<b>Chiayi City</b>	102774	34.05	14.52	9.27	20.83	34.43	45.13	79.31
<b>Kinmen County</b>	5643	32.98	13.11	3.08	24.20	32.94	42.29	65.21
<b>Nantou County</b>	141228	32.89	11.74	10.60	23.59	33.01	43.61	64.60
<b>Kaohsiung City</b>	61291	31.43	13.80	7.89	18.93	33.52	41.64	70.91
<b>Changhua County</b>	276935	30.69	9.65	12.28	23.30	30.79	38.03	59.24
<b>Tainan City</b>	59171	30.48	11.88	8.42	20.08	32.97	39.67	63.35
<b>Yunlin County</b>	144635	30.45	10.26	11.14	21.31	32.03	38.96	56.03
<b>Chiayi County</b>	133934	29.83	11.14	10.57	21.22	30.65	38.22	61.97
<b>Taichung City</b>	49909	26.66	7.60	11.13	20.81	27.11	32.00	55.47
<b>Pingtung County</b>	209747	26.62	10.46	8.20	17.78	26.10	36.04	53.67
<b>Hsinchu City</b>	84178	26.47	9.04	5.92	20.52	27.06	30.90	64.42
<b>Miaoli County</b>	128000	25.05	7.91	9.77	19.33	24.62	29.92	50.25
<b>Taoyuan City</b>	502442	23.26	5.87	10.73	19.32	22.07	27.70	45.78
<b>Hsinchu County</b>	85646	23.26	7.15	6.21	18.57	22.50	28.44	47.00
<b>New Taipei City</b>	978636	21.83	6.06	9.80	17.80	21.44	25.82	42.28
<b>Taipei City</b>	492649	21.50	6.12	10.08	16.62	21.28	24.99	43.91
<b>Penghu County</b>	18630	19.67	6.99	5.42	14.10	20.55	25.00	40.17
<b>Keelung City</b>	87714	18.35	4.92	8.92	14.61	18.10	22.00	34.81
<b>Lianjiang County</b>	970	18.19	6.62	12.55	14.29	14.55	21.87	46.71
<b>Yilan County</b>	97734	16.59	5.36	5.25	12.79	16.25	20.37	32.60
<b>Hualien County</b>	123758	15.78	5.99	5.50	11.68	14.61	20.06	32.26
<b>Taitung County</b>	78421	11.82	3.88	4.72	8.53	11.94	14.80	22.39

**Table S2. Number of diagnosed oral disease (OPMD+OC) by county/city**

<b>County/City</b>	<b>Normal</b>	<b>(%)</b>	<b>OPMD+OC</b>	<b>(%)</b>
<b>Chiayi City</b>	93651	91.12	9123	8.88
<b>Changhua County</b>	256613	92.66	20322	7.34
<b>Penghu County</b>	17318	92.96	1312	7.04
<b>Hualien County</b>	116656	94.26	7102	5.74
<b>Tainan City</b>	55837	94.37	3334	5.63
<b>Pingtung County</b>	198691	94.73	11056	5.27
<b>Chiayi County</b>	126904	94.75	7030	5.25
<b>Keelung City</b>	83131	94.78	4583	5.22
<b>Taoyuan City</b>	477391	95.01	25051	4.99
<b>Yunlin County</b>	137501	95.07	7134	4.93
<b>Yilan County</b>	93218	95.38	4516	4.62
<b>Taipei City</b>	470675	95.54	21974	4.46
<b>Taitung County</b>	75308	96.03	3113	3.97
<b>New Taipei City</b>	940627	96.12	38009	3.88
<b>Hsinchu City</b>	81412	96.71	2766	3.29
<b>Kaohsiung City</b>	59319	96.78	1972	3.22
<b>Lianjiang County</b>	939	96.80	31	3.20
<b>Nantou County</b>	137103	97.08	4125	2.92
<b>Miaoli County</b>	125429	97.99	2571	2.01
<b>Kinmen County</b>	5546	98.28	97	1.72
<b>Hsinchu County</b>	84283	98.41	1363	1.59
<b>Taichung City</b>	49177	98.53	732	1.47



**Table S3. Distribution of PM<sub>2.5</sub> by county/city (OPMD)**

County/City	N	Means	SD	Min	Q1	Median	Q3	Max
<b>Chiayi City</b>	101610	34.00	14.50	9.27	20.83	34.06	45.13	79.31
<b>Kinmen County</b>	5623	32.97	13.09	3.08	24.20	32.94	42.29	65.21
<b>Nantou County</b>	140260	32.88	11.74	10.60	23.59	33.01	43.61	64.60
<b>Kaohsiung City</b>	61051	31.43	13.80	7.89	18.93	33.52	41.64	70.91
<b>Changhua County</b>	273748	30.67	9.64	12.28	23.30	30.79	38.03	59.24
<b>Tainan City</b>	58862	30.47	11.88	8.42	20.08	32.97	39.67	63.35
<b>Yunlin County</b>	143240	30.43	10.26	11.14	21.31	32.03	38.96	56.03
<b>Chiayi County</b>	132881	29.81	11.13	10.57	21.21	30.65	38.22	61.97
<b>Taichung City</b>	49795	26.66	7.60	11.13	20.81	27.11	32.00	55.47
<b>Pingtung County</b>	208101	26.60	10.46	8.20	17.78	26.10	36.04	53.67
<b>Hsinchu City</b>	83763	26.46	9.04	5.92	20.52	27.06	30.90	64.42
<b>Miaoli County</b>	127493	25.05	7.90	9.77	19.33	24.62	29.92	50.25
<b>Hsinchu County</b>	85334	23.25	7.15	6.21	18.57	22.50	28.44	47.00
<b>Taoyuan City</b>	499782	23.25	5.86	10.73	19.32	22.07	27.47	45.78
<b>New Taipei City</b>	974625	21.82	6.06	9.80	17.80	21.44	25.82	42.28
<b>Taipei City</b>	490013	21.49	6.12	10.08	16.62	21.28	24.99	43.91
<b>Penghu County</b>	18518	19.66	6.98	5.42	14.10	20.55	24.94	40.17
<b>Keelung City</b>	87265	18.34	4.92	8.92	14.61	18.10	22.00	34.81
<b>Lianjiang County</b>	970	18.19	6.62	12.55	14.29	14.55	21.87	46.71
<b>Yilan County</b>	97130	16.58	5.36	5.25	12.79	16.25	20.37	32.60
<b>Hualien County</b>	122963	15.76	5.99	5.50	11.68	14.61	20.00	32.26
<b>Taitung County</b>	77732	11.81	3.88	4.72	8.48	11.94	14.80	22.39

**Table S4. Number of diagnosed oral potentially malignant disorders by county**

County/City	Normal	(%)	OPMD	(%)
Chiayi City	93651	92.17	7959	7.83
Penghu County	17318	93.52	1200	6.48
Changhua County	256613	93.74	17135	6.26
Tainan City	55837	94.86	3025	5.14
Hualien County	116656	94.87	6307	5.13
Keelung City	83131	95.26	4134	4.74
Pingtung County	198691	95.48	9410	4.52
Chiayi County	126904	95.50	5977	4.50
Taoyuan City	477391	95.52	22391	4.48
Yilan County	93218	95.97	3912	4.03
Yunlin County	137501	95.99	5739	4.01
Taipei City	470675	96.05	19338	3.95
New Taipei City	940627	96.51	33998	3.49
Lianjiang County	939	96.80	31	3.20
Taitung County	75308	96.88	2424	3.12
Kaohsiung City	59319	97.16	1732	2.84
Hsinchu City	81412	97.19	2351	2.81
Nantou County	137103	97.75	3157	2.25
Miaoli County	125429	98.38	2064	1.62
Kinmen County	5546	98.63	77	1.37
Taichung City	49177	98.76	618	1.24
Hsinchu County	84283	98.77	1051	1.23

OPMD: Oral potentially malignant disorder



**Table S5. Distribution of PM<sub>2.5</sub> by County/City (OC)**

County/City	N	Means	SD	Min	Q1	Median	Q3	Max
<b>Chiayi City</b>	94815	33.98	14.48	9.27	20.83	33.83	45.13	79.31
<b>Kinmen County</b>	5566	32.99	13.13	3.08	24.20	32.94	42.29	65.21
<b>Nantou County</b>	138071	32.92	11.75	10.60	23.59	33.01	43.61	64.60
<b>Kaohsiung City</b>	59559	31.47	13.78	7.89	18.93	33.52	41.64	70.91
<b>Changhua County</b>	259800	30.65	9.66	12.28	23.30	30.79	38.03	59.24
<b>Tainan City</b>	56146	30.47	11.89	8.42	20.08	32.97	39.67	63.35
<b>Yunlin County</b>	138896	30.45	10.25	11.14	21.31	32.03	39.22	56.03
<b>Chiayi County</b>	127957	29.81	11.12	10.57	21.22	30.65	38.22	61.97
<b>Pingtung County</b>	200337	26.71	10.44	8.20	17.78	26.10	36.04	53.67
<b>Taichung City</b>	49291	26.66	7.59	11.13	20.81	27.11	32.00	55.47
<b>Hsinchu City</b>	81827	26.57	9.03	5.92	20.52	27.06	31.00	64.42
<b>Miaoli County</b>	125936	25.07	7.92	9.77	19.33	24.62	29.92	50.25
<b>Taoyuan City</b>	480051	23.29	5.88	10.73	19.42	22.07	27.70	45.78
<b>Hsinchu County</b>	84595	23.28	7.15	6.21	18.57	22.84	28.56	47.00
<b>New Taipei City</b>	944638	21.80	6.07	9.80	17.80	21.44	25.82	42.28
<b>Taipei City</b>	473311	21.48	6.12	10.08	16.62	21.28	24.99	43.91
<b>Penghu County</b>	17430	19.72	7.01	5.42	14.10	20.78	25.00	40.17
<b>Keelung City</b>	83580	18.35	4.93	8.92	14.61	18.10	22.00	34.81
<b>Lianjiang County</b>	939	18.17	6.65	12.55	14.40	14.55	21.87	46.71
<b>Yilan County</b>	93822	16.59	5.37	5.25	12.79	16.25	20.37	32.60
<b>Hualien County</b>	117451	15.67	5.95	5.50	11.68	14.61	19.87	32.26
<b>Taitung County</b>	75997	11.83	3.88	4.72	8.53	11.94	14.80	22.39



**Table S6. Number of diagnosed OC by county/city**

<b>County</b>	<b>Normal</b>	<b>(%)</b>	<b>OC</b>	<b>(%)</b>
<b>Chiayi City</b>	93651	98.77	1164	1.23
<b>Changhua County</b>	256613	98.77	3187	1.23
<b>Yunlin County</b>	137501	99.00	1395	1.00
<b>Taitung County</b>	75308	99.09	689	0.91
<b>Chiayi County</b>	126904	99.18	1053	0.82
<b>Pingtung County</b>	198691	99.18	1646	0.82
<b>Nantou County</b>	137103	99.30	968	0.70
<b>Hualien County</b>	116656	99.32	795	0.68
<b>Yilan County</b>	93218	99.36	604	0.64
<b>Penghu County</b>	17318	99.36	112	0.64
<b>Taipei City</b>	470675	99.44	2636	0.56
<b>Taoyuan City</b>	477391	99.45	2660	0.55
<b>Tainan City</b>	55837	99.45	309	0.55
<b>Keelung City</b>	83131	99.46	449	0.54
<b>Hsinchu City</b>	81412	99.49	415	0.51
<b>New Taipei City</b>	940627	99.58	4011	0.42
<b>Kaohsiung City</b>	59319	99.60	240	0.40
<b>Miaoli County</b>	125429	99.60	507	0.40
<b>Hsinchu County</b>	84283	99.63	312	0.37
<b>Kinmen County</b>	5546	99.64	20	0.36
<b>Taichung City</b>	49177	99.77	114	0.23
<b>Lianjiang County</b>	939	100.00	0	0.00