

**Table S1.** Trend change of high risk and non-high risk HPV genotype infections over time in different age groups.

### Test trend for different age group

Age group	High risk	Non high risk
>70	0.7561	0.3262
20-30	0.9583	0.9962
30-40	0.3546	0.7012
40-50	0.1203	0.0022
50-60	0.4213	0.0036
60-70	< 0.001	< 0.001
0-20	1.000	0.8276

**Table S2.** Statistical testing of high risk and non-high risk genotypes under different age groups over 2010-2020.

### Comparisons of high risk and non high risk each year under each age group

Year	Age group						
	>70	20-30	30-40	40-50	50-60	60-70	0-20
<b>2010</b>	0.4901	0.2193	0.0022	0.0008	0.0878	0.1396	NA
<b>2011</b>	0.9858	0.7197	0.0323	0.2720	0.0035	0.2383	NA
<b>2012</b>	0.0610	0.6448	0.0001	1	0.0001	0.1194	0.1463
<b>2013</b>	0.6565	1	0.0019	0.4942	0.0150	0.9130	0.4667
<b>2014</b>	0.5543	0.0501	0.0004	0.5176	< 0.0001	0.3573	NA
<b>2015</b>	0.6480	0.2421	< 0.0001	0.2729	0.0002	0.0099	0.4576
<b>2016</b>	0.5099	0.0275	0.0006	0.7809	0.1109	0.0001	0.4657
<b>2017</b>	0.6859	0.5246	0.0003	0.2586	0.0152	0.3353	NA
<b>2018</b>	0.4952	0.0179	0.0003	0.1523	0.6429	0.0026	0.2143
<b>2019</b>	0.7299	0.6252	< 0.0001	0.7256	0.0201	0.0538	1
<b>2020</b>	0.4838	0.9661	0.2692	0.2533	0.0256	0.9611	NA

**Table S3.** Statistical testing of trend change for the HPV genotypes.

<b>Genotype</b>	<b>p-value</b>
HPV-16	0.6824
HPV-18	0.6335
HPV-31	0.018
HPV-33	0.0089
HPV-35	0.0901
HPV-39	<0.001
HPV-45	0.8749
HPV-51	<0.001
HPV-52	0.0972
HPV-56	0.5243
HPV-58	0.0075
HPV-59	<0.001