APPENDICES

APPENDIX A

Table S1. The highest eigenvectors of the six components summarised.

Variable	Component					
	PC1 (%)	PC2 (%)	PC3 (%)	PC4 (%)	PC5 (%)	PC6 (%)
1-PD	0.917	0.106	0.136	0.141	–0.124	–0.070
2-TH	0.725	0.428	0.256	0.212	0.392	0.023
3-AHS	–0.039	–0.089	0.096	–0.791	–0.066	0.163
4-SII- 2	0.918	0.110	0.115	0.135	0.180	0.011
5-SCI	–0.142	0.491	0.401	0.114	0.620	–0.078
6-TPPI	0.703	0.437	0.241	0.204	0.392	0.039
7-PPI %	0.486	0.108	0.262	0.741	0.132	0.090
8-RCI	–0.111	–0.251	–0.700	–0.302	0.113	0.204
9-TP	0.624	0.510	0.267	0.191	0.437	0.030
10- N-OC (0-14)	0.927	0.315	0.073	0.108	–0.011	–0.007
11- N-OC (15-59)	0.893	0.402	0.049	0.056	0.048	0.015
12- N-OC (60+)	0.942	0.247	0.074	0.099	–0.028	–0.014
13-OC (0-14)	0.306	0.919	0.141	0.053	0.006	–0.047
14-OC (15-59)	0.280	0.926	0.192	0.078	0.096	–0.046
15-OC (60+)	0.265	0.859	0.262	0.118	0.208	–0.079
16-OFC	–0.023	–0.052	0.032	–0.006	0.063	0.983
17-OMC	–0.003	–0.068	0.023	–0.070	0.101	0.981
18-TO	0.343	0.915	0.139	0.056	0.006	–0.033
19-TN-O	0.906	0.371	0.036	0.046	–0.018	0.005
20-TI	0.254	0.044	–0.032	0.094	0.801	0.242
21-SII-2	0.186	0.413	0.585	0.370	–0.323	0.154
22-Doctors %	–0.226	–0.181	–0.750	0.263	–0.186	–0.153
23-Nurses %	–0.145	–0.160	–0.885	–0.083	–0.187	–0.051
24- HB	0.731	–0.038	0.148	0.235	0.384	0.026

The first six components accounted for the overall weight (90% of the original variables). The first three PCs clarified 65% of the variation, while the remaining three PCs had an eigenvalue value below 10.

The highest factor loadings for PC1 were 0.942 for the non-Omani cases aged ≥ 60, 0.927 for the non-Omani cases aged 0–14, 0.918 for spatial interaction index-2, 0.917 for the population density, 0.906 for the total non-Omani population, 0.89 for the non-Omani cases aged 15–59, 0.731 for the number of hospital beds, 0.725 for the total number of households, 0.703 for the TPP index and 0.703 for the purchasing power per mile.

The highest factor loadings for PC2 were 0.926 for the Omani cases aged 15–59, 0.915 for the total Omani cases, 0.919 for the Omani cases aged 0–14 and 0.859 for the Omani cases aged ≥ 60.

Table S2. Summary of the multivariate clustering based on K-means and K-medoids analysis.

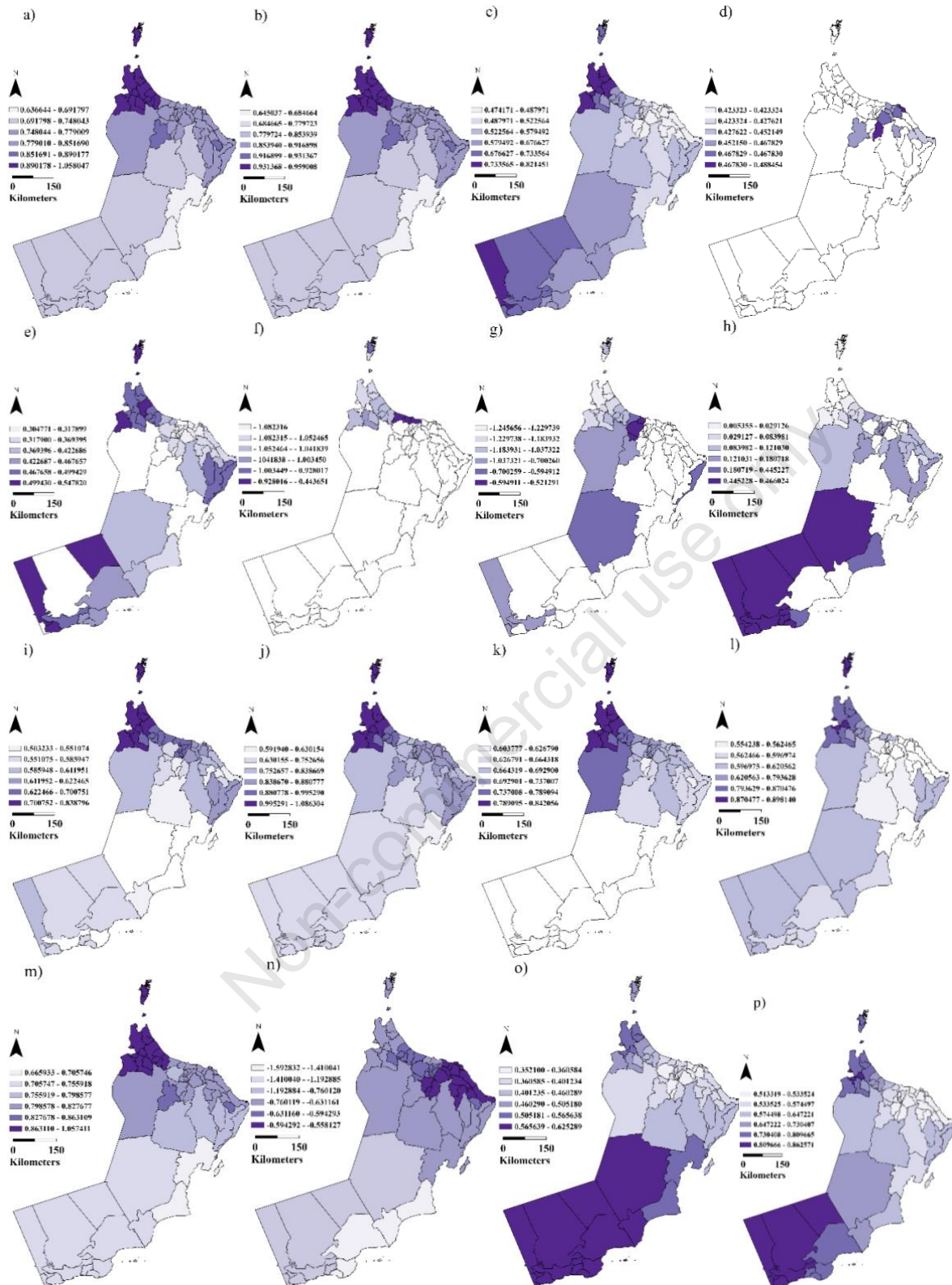| Variable	R^2	
	K-Means	**K-Medoids**
April	0.589	0.587
May	0.636	0.637
Juan	0.965	0.966
July	0.968	0.968
August	0.773	0.771

Oman's districts are grouped based on the monthly registered COVID-19 cases from April to August 2020.
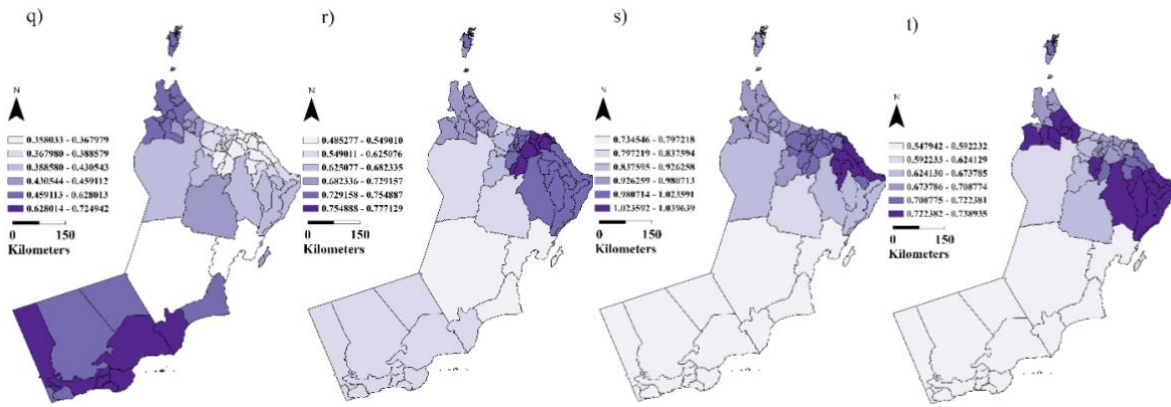
S3 Table. P-values showing statistically significant variables with coefficients based on GLR in Muscat and Al-Batinah North.

Region	Coefficient			P			VIF			AIC$_c$
	PC1	**PC2**	**PC3**	**PC1**	**PC2**	**PC3**	**PC1**	**PC2**	**PC3**	
Muscat	0.3638	0.2772	0.0079	0.0001*	0.0001*	0.6472	1.3663	4.9830	4.5421	1,287
Batinah-N	−3.1166	0.9662	−0.4995	0.0001*	0.0001*	0.0098*	1.2302	1.5291	1.2784	357

VIF, variance inflation factor; AIC$_c$, corrected Akaike information criterion

APPENDIX B

a) total population; b) total Omani population; c) total non-Omani population; d) tobacco index; e) spatial interaction index-1; f) doctors %; g) nurses %; h) number of hospital beds; i) population density; g) total number of households; k) spatial interaction index-2; l) social charity index; m) total purchasing power index; n) relative cases distance; o) non-Omani cases aged 0–14; p) non-Omani cases aged 15–59; q) non-Omani cases aged ≥ 60; r) Omani cases aged 0–14; s) Omani cases aged 15–59; and t) Omani cases aged ≥ 60.