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Supplementary Information

Exploratory Spatial Data Analysis of Congenital Malformations (CM) in Israel, 2000–2006. *ISPRS International Journal of Geo-Information* 2013, 2, 237-255

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**Table S1.** Global Moran *I* autocorrelation of unadjusted rates and total cases counts, Israel, 2000–2006.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Anatomic system** | **CM included** | **ICD-10** | **Total Counts** | **GLOBAL MORAN *I*** | | | |
| **Moran’s Index** | **Variance** | **Z Score** | ***p*-value** |
| **Nervous System** | Anencephalus | Q00, Q00.0, Q00.1,Q00.2 | 216 | 6.80E−05 | 2.00E−06 | 0.304026 | 0.761108 |
| **Encephalocele** | Q01.0, 01.2, Q01.8, Q01.9. | 40 | −1.84E−03 | 3.00E−06 | −0.902354 | 0.366869 |
| **Spina bifida** | Q05.0–Q05.5,Q05.7–Q05.9 | 171 | 2.57E−04 | 2.00E−06 | 0.478117 | 0.632567 |
| **Neural tube defects** | Q00, –Q00.2 , Q01.0,01.2, Q01.8, Q01.9,  Q05.0–Q05.9 | 427 | 1.14E−03 | 3.00E−06 | 0.880289 | 0.378703 |
| **Other central nervous system** | Q02,Q02.0, Q03.0, Q3.1,  Q03.7–Q04.0,Q04.2–Q04.5 | 931 | −3.27E−04 | 4.00E−06 | 0.028303 | 0.977421 |
| **Facial System** | **Cleft palate** | Q35.0,Q35.1, Q35.3, Q35.5, Q35.6, Q35.9 | 253 | −2.12E−03 | 5.00E−06 | −0.795012 | 0.426606 |
| **Cleft lip** | Q36.0, Q36.9 | 214 | −2.85E−04 | 3.00E−06 | 0.052818 | 0.957877 |
| **Cleft hard palate with cleft lip** | Q37.0, Q37.1Q37.5,Q37.8, Q37.9 | 183 | −1.41E−03 | 2.00E−06 | −0.70684 | 0.479666 |
| **Cleft lip with or without cleft palate** | Q36.0, Q36.9,Q37.0, Q37.1Q37.5,Q37.8, Q37.9 | 397 | −2.17E−03 | 4.00E−06 | −0.923913 | 0.355532 |
| **Digestive System** | **Atresia of Oesophagus** | Q39.0–Q39.2, Q39.9 | 211 | 4.54E−04 | 5.00E−06 | 0.390906 | 0.695867 |
| **Atresia of small intestine** | Q41.0, Q41.1, Q41.2, Q41.8, Q41.9 | 153 | −1.18E−03 | 4.00E−06 | −0.385896 | 0.699574 |
| **Atresia of large intestine** | Q42.0, 42.1, 42.2, 42.3,42.8, 42.9 | 226 | 3.19E−03 | 5.00E−06 | 1.615195 | 0.106268 |
| **Musculo−skeletal System** | **Reduction deformation of limbs** | Q71.0–Q71.6, Q71.8–Q73.1, Q73.8 | 211 | 3.57E−03 | 5.00E−06 | 1.832185 | 0.066924 |
| **Polydactyly** | Q69.0, Q69.1, Q69.2, Q69.9, | 748 | 5.19E−03 | 5.00E−06 | 2.513643 | 0.011949 |
| **Syndactyly** | Q70.0,Q70.1,Q70.2, Q70.3, Q70.4,Q70.9 | 416 | 2.31E−03 | 5.00E−06 | 1.21637 | 0.223844 |
| **Congenital diaphragmatic hernia** | Q79.0 | 148 | 8.50E−04 | 4.00E−06 | 0.595304 | 0.55164 |
| **Omphalocele** | Q79.2 | 66 | 3.56E−04 | 4.00E−06 | 0.368668 | 0.712375 |
| **Gastroschisis** | Q79.3 | 27 | −9.63E−04 | 1.00E−06 | −0.496622 | 0.619456 |
| **Prune belly syndrome** | Q79.4 | 11 | −6.60E−04 | 1.00E−06 | −0.351293 | 0.725369 |
| **Muscles of the abdominal wall** | Q79.0,Q79.2,Q79.3,Q79.4 | 252 | 4.01E−04 | 4.00E−06 | 0.370997 | 0.71064 |
| **Circulatory System** | **PDA−Patent ductus arteriosus** | Q25.0 | 992 | 2.83E−02 | 5.00E−06 | 13.487745 | 0.0000 |
| **Tricuspid anomalies** | Q22.8, Q22.4, Q22.9, Q22.5 | 358 | 1.39E−02 | 5.00E−06 | 6.408088 | 0.0000 |
| **Hypoplastic right heart** | Q22.6, Q22.0, Q25.6 | 138 | −2.60E−03 | 5.00E−06 | −1.037674 | 0.299422 |
| **Aortic artery and valve defects** | Q24.4, Q25.3, Q25.2, Q25.4 , 23.0, Q25.1, Q23.1 | 511 | −6.85E−04 | 4.00E−06 | −0.159281 | 0.873447 |
| **Atrial and atrial septal Defects (ASD)** | Q21.1,Q24.2,Q26.2 | 4621 | 1.59E−01 | 5.00E−06 | 74.534537 | 0.0000 |
| **Endocarddial cusion and mitral valve defects** | Q23.2,Q23.3 | 74 | 2.52E−04 | 3.00E−06 | 0.352658 | 0.724345 |
| **Hypoplastic left heart syndrome** | Q23.4 | 133 | 5.77E−03 | 5.00E−06 | 2.805619 | 0.005022 |

**Table S1.** *Cont.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Anatomic system** | **CM included** | **ICD-10** | **Total Counts** | **GLOBAL MORAN *I*** | | | |
| **Moran’s Index** | **Variance** | **Z Score** | ***p*-value** |
| **Circulatory System** | **Pulmonary artery and valve defects** | Q25.5, Q25.7,Q22.3, Q22.2, Q22.1 | 625 | 1.32E−04 | 1.00E−06 | 0.436704 | 0.662326 |
| **Conotruncal defects** | Q20, Q24.1, Q21.1, Q20.6, Q20.1, Q24.0,Q20.0, Q20.3, Q21.3 | 573 | 1.15E−03 | 3.00E−06 | 0.873863 | 0.382193 |
| **Ventricular septal defect (VSD) not included in the conotruncal category** | Q21,Q21.0,Q21.2 | 5,217 | 2.28E−02 | 5.00E−06 | 10.791284 | 0.00000 |
| **All Heart CM** | Q20–Q25 | 17,294 | 9.07E−02 | 5.00E−06 | 41.518359 | 0.00000 |
| **Male−Genital organs** | **Cryptorchidism** | Q53, Q53.0, Q53.1, Q53.2, Q53.9 | 2,485 | 2.65E−02 | 5.00E−06 | 11.989655 | 0.00000 |
| **Hypospdias** | Q54, Q54.0, Q54.1,Q54.2, Q54.3, Q54.8, Q54.9. | 2,593 | 6.23E−03 | 5.00E−06 | 3.050957 | 0.002281 |
| **Urinary System** | **Renal agenesis** | Q60.0, Q60.1, Q60.2, Q60.6. | 303 | −2.28E−04 | 5.00E−06 | 0.070024 | 0.944175 |
| **Congenital cystic disease** | Q61.1, Q61.2,Q61.3,Q61.4, Q61.5, Q61.8, Q61.9 | 348 | 1.08E−03 | 4.00E−06 | 0.705563 | 0.48046 |
| **Chromosomal CM** | **Trisomy 21** | Q90.0, Q90.2, Q90.9 | 1,032 | 5.17E−03 | 4.00E−06 | 2.928301 | 0.003408 |
|  | **Not trisomy 21** | Q91.0,Q91.3, Q91.4,Q91.7,Q92.0, Q92.2,Q92.7, Q92.8, Q93.0, Q93.1, Q93.3,Q93.4, Q93.5, Q93.8, Q95, Q95.0, Q95.9, Q96.0, Q96.1, Q96.2, Q96.3, Q96.9, Q97.0, Q97.3, Q98.0, Q98.3, Q98.5, Q98.9, Q99, Q99.2, Q99.8, Q99.9 | 310 | 1.27E−02 | 4.00E−06 | 6.472819 | 0.00000 |
| **Total cases** |  |  | 42,908 |  |  |  |  |
| **Total births (live and stillbirths)** |  |  | 991,184 |  |  |  |  |

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