**SUPPORTING INFORMATION**

**Lifetime Prevalence and Temporal Trends of Incidence of Child’s Mental Disorder Diagnoses in Catalonia, Spain.**

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# Supplementary Table 1 ICD-9 codes for included cases of mood disorder, anxiety disorder, conduct disorder, and eating disorder

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mood disorder | |  | Anxiety disorder | |  | Conduct disorder | |  | Eating disorder | |
| ICD-9 | Description | ICD-9 | Description | ICD-9 | Description | ICD-9 | Description |
| 296.0 | Bipolar 1 disorder, single manic episode |  | 300.00 | Anxiety state, unspecified |  | 312.0 | Undersocialized conduct disorder, aggressive type |  | 307.1 | Anorexia Nervosa |
| 296.1 | Manic disorder, recurrent episode |  | 300.01 | Panic disorder without agoraphobia |  | 312.1 | Undersocialized conduct disorder, unaggressive type |  | 307.50 | Eating disorder, unspecified |
| 296.2 | Major depressive disorder, single episode |  | 300.02 | Generalized anxiety disorder |  | 312.2 | Socialized conduct disorder |  | 307.51 | Bulimia Nervosa |
| 296.3 | Major depressive disorder, recurrent episode |  | 300.09 | Anxiety states, other |  | 312.3 | Disorders of impulse control, not elsewhere classified |  | 307.52 | PICA |
| 296.4 | Bipolar I disorder, most recent episode (or current) manic |  | 300.20 | Phobia, unspecified |  | 312.4 | Mixed disturbance of conduct and emotions |  | 307.53 | Rumination disorder |
| 296.5 | Bipolar I disorder, most recent episode (or current) depressed |  | 300.21 | Agoraphobia with panic disorder |  | 312.8 | Other specified disturbances of conduct, not elsewhere classified |  |  |  |
| 296.6 | Bipolar I disorder, most recent episode (or current) mixed |  | 300.22 | Agoraphobia without mention of panic attacks |  | 312.9 | Unspecified disturbance of conduct |  |  |  |
| 296.7 | Bipolar I disorder, most recent episode (or current) unspecified |  | 300.23 | Social phobia |  |  |  |  |  |  |
| 296.8 | Other and unspecified bipolar disorders |  | 300.29 | Other isolated or specific phobias |  |  |  |  |  |  |
| 296.9 | Other and unspecified episodic mood disorder |  | 309.21 | Separation anxiety disorder |  |  |  |  |  |  |
| 300.4 | Dysthymic disorder |  | 313.0 | Overanxious disorder |  |  |  |  |  |  |
| 311 | Depressive disorder, not elsewhere classified |  |  |  |  |  |  |  |  |  |

ICD-9: International Classification of Diseases, 9th revision

# Supplementary Table 2 Number of children aged 2-18 in Catalonia for each year between 2009 and 2017, overall and stratified by sex and age groups

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **Sex** | |  | **Age group** | | |
|  |  | **Total** |  | **Boys** | **Girls** |  | **2-6 years** | **7-12 years** | **13-18 years** |
| **2009** |  | 1,312,844 |  | 675,725 | 637,119 |  | 426,751 | 452,302 | 433,791 |
| **2010** |  | 1,316,143 |  | 677,307 | 638,836 |  | 427,438 | 455,623 | 433,082 |
| **2011** |  | 1,335,285 |  | 687,330 | 647,955 |  | 437,635 | 466,707 | 430,943 |
| **2012** |  | 1,336,424 |  | 688,771 | 647,653 |  | 440,127 | 474,592 | 421,705 |
| **2013** |  | 1,332,626 |  | 687,303 | 645,323 |  | 433,968 | 477,813 | 420,845 |
| **2014** |  | 1,336,888 |  | 689,360 | 647,528 |  | 427,101 | 483,921 | 425,866 |
| **2015** |  | 1,326,351 |  | 683,834 | 642,517 |  | 413,024 | 486,847 | 426,480 |
| **2016** |  | 1,328,400 |  | 684,189 | 644,211 |  | 395,411 | 498,807 | 434,182 |
| **2017** |  | 1,325,132 |  | 682,804 | 642,328 |  | 382,281 | 500,059 | 442,792 |

# Supplementary Table 3 Annual incidence of diagnoses (%) of mood disorder, anxiety disorder, conduct disorder, and eating disorder in children aged 2-18 for each year between 2009 and 2017, overall and stratified by sex and age groups

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Annual incidence of diagnoses (%)** | | | | | | | |
|  |  |  |  |  | **Sex** | |  | **Age groups** | | |
|  |  |  | **Total (95% CI)** |  | **Boys (95% CI)** | **Girls (95% CI)** | **2-6 years (95% CI)** | **7-12 years (95% CI)** | **13-18 years (95% CI)** |
| **Mood disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009 |  | 0.18 (0.17-0.19) |  | 0.16 (0.15-0.17) | 0.21 (0.19-0.22) |  | 0.01 (0.01-0.02) | 0.14 (0.13-0.15) | 0.40 (0.38-0.42) |
|  | 2010 |  | 0.13 (0.13-0.14) |  | 0.11 (0.11-0.12) | 0.16 (0.15-0.17) |  | 0.01 (0.01-0.02) | 0.11 (0.10-0.12) | 0.28 (0.26-0.29) |
|  | 2011 |  | 0.11 (0.11-0.12) |  | 0.10 (0.09-0.11) | 0.13 (0.12-0.14) |  | 0.01 (0.01-0.01) | 0.09 (0.08-0.10) | 0.25 (0.23-0.26) |
|  | 2012 |  | 0.15 (0.14-0.16) |  | 0.12 (0.12-0.13) | 0.17 (0.16-0.18) |  | 0.02 (0.01-0.02) | 0.11 (0.10-0.12) | 0.33 (0.31-0.35) |
|  | 2013 |  | 0.20 (0.19-0.20) |  | 0.16 (0.15-0.17) | 0.24 (0.23-0.25) |  | 0.02 (0.02-0.02) | 0.14 (0.13-0.15) | 0.45 (0.43-0.47) |
|  | 2014 |  | 0.22 (0.21-0.23) |  | 0.17 (0.16-0.18) | 0.27 (0.25-0.28) |  | 0.03 (0.02-0.03) | 0.15 (0.14-0.16) | 0.49 (0.46-0.51) |
|  | 2015 |  | 0.21 (0.20-0.22) |  | 0.16 (0.15-0.17) | 0.26 (0.25-0.27) |  | 0.03 (0.02-0.03) | 0.14 (0.13-0.15) | 0.46 (0.44-0.48) |
|  | 2016 |  | 0.21 (0.20-0.21) |  | 0.17 (0.16-0.18) | 0.25 (0.24-0.26) |  | 0.02 (0.02-0.03) | 0.14 (0.13-0.15) | 0.45 (0.43-0.47) |
|  | 2017 |  | 0.21 (0.20-0.22) |  | 0.16 (0.15-0.17) | 0.26 (0.25-0.27) |  | 0.02 (0.02-0.03) | 0.15 (0.14-0.16) | 0.44 (0.42-0.46) |
| **Anxiety disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009 |  | 0.34 (0.33-0.35) |  | 0.32 (0.31-0.34) | 0.36 (0.35-0.38) |  | 0.12 (0.11-0.13) | 0.44 (0.42-0.46) | 0.45 (0.43-0.47) |
|  | 2010 |  | 0.23 (0.22-0.24) |  | 0.21 (0.20-0.22) | 0.24 (0.23-0.26) |  | 0.11 (0.10-0.11) | 0.29 (0.27-0.30) | 0.28 (0.27-0.30) |
|  | 2011 |  | 0.18 (0.17-0.19) |  | 0.16 (0.15-0.17) | 0.20 (0.19-0.21) |  | 0.07 (0.06-0.08) | 0.23 (0.22-0.24) | 0.24 (0.23-0.26) |
|  | 2012 |  | 0.20 (0.19-0.20) |  | 0.17 (0.16-0.18) | 0.22 (0.21-0.23) |  | 0.08 (0.07-0.09) | 0.23 (0.22-0.25) | 0.27 (0.26-0.29) |
|  | 2013 |  | 0.25 (0.24-0.26) |  | 0.22 (0.21-0.23) | 0.29 (0.27-0.30) |  | 0.09 (0.08-0.10) | 0.30 (0.29-0.32) | 0.36 (0.35-0.38) |
|  | 2014 |  | 0.25 (0.24-0.26) |  | 0.23 (0.22-0.24) | 0.28 (0.27-0.30) |  | 0.09 (0.08-0.10) | 0.28 (0.27-0.30) | 0.39 (0.37-0.41) |
|  | 2015 |  | 0.25 (0.24-0.25) |  | 0.21 (0.20-0.23) | 0.28 (0.27-0.29) |  | 0.08 (0.07-0.09) | 0.27 (0.25-0.28) | 0.38 (0.36-0.40) |
|  | 2016 |  | 0.25 (0.24-0.26) |  | 0.22 (0.21-0.23) | 0.28 (0.26-0.29) |  | 0.07 (0.07-0.08) | 0.25 (0.24-0.27) | 0.40 (0.38-0.42) |
|  | 2017 |  | 0.40 (0.39-0.41) |  | 0.34 (0.33-0.36) | 0.46 (0.44-0.47) |  | 0.08 (0.08-0.09) | 0.24 (0.23-0.25) | 0.84 (0.82-0.87) |

CI: Confidence interval; IRR: Incidence risk ratio

# Supplementary Table 3 (continuation) Annual incidence of diagnoses (%) of mood disorder, anxiety disorder, conduct disorder, and eating disorder in children aged 2-18 for each year between 2009 and 2017, overall and stratified by sex and age groups

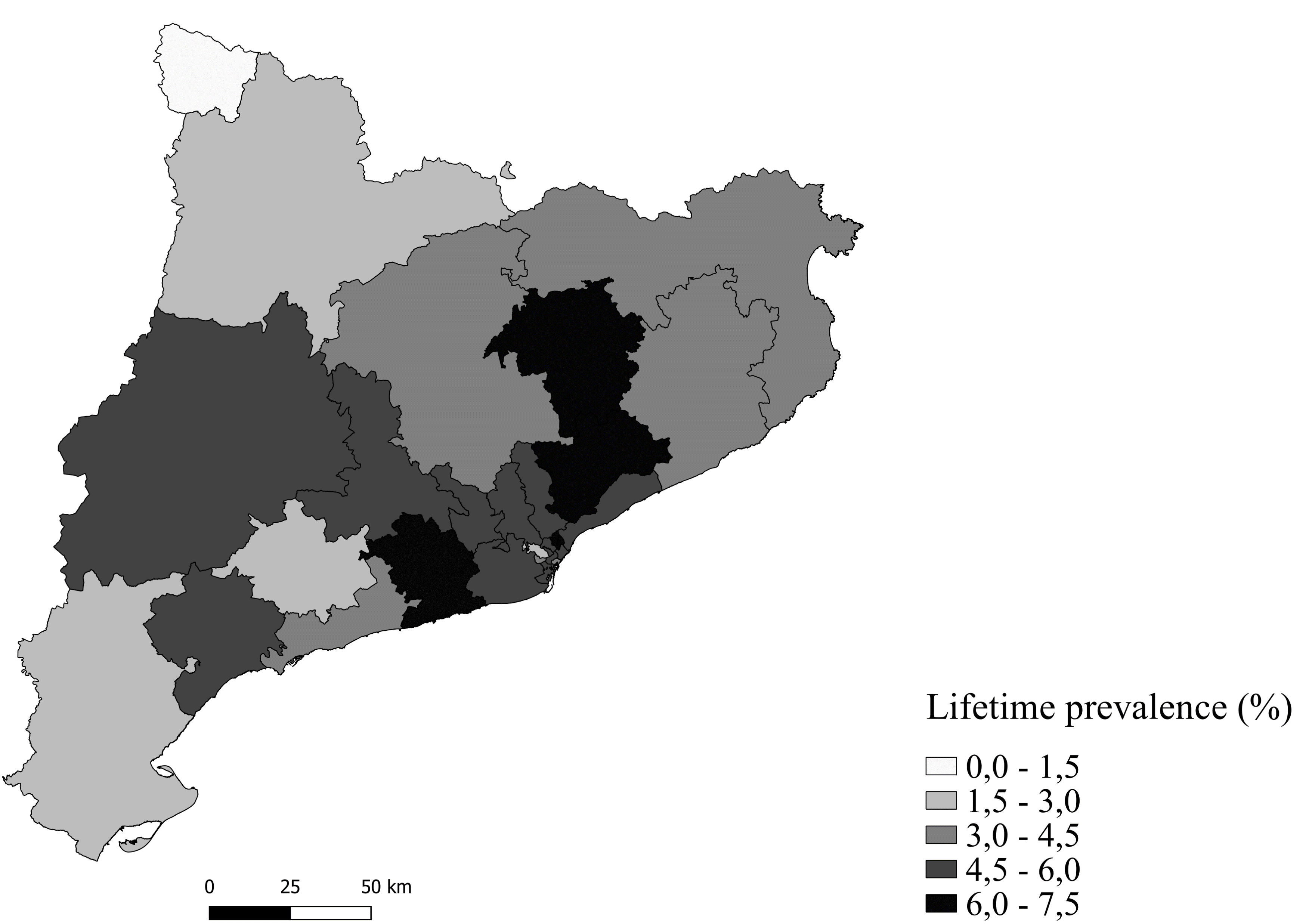
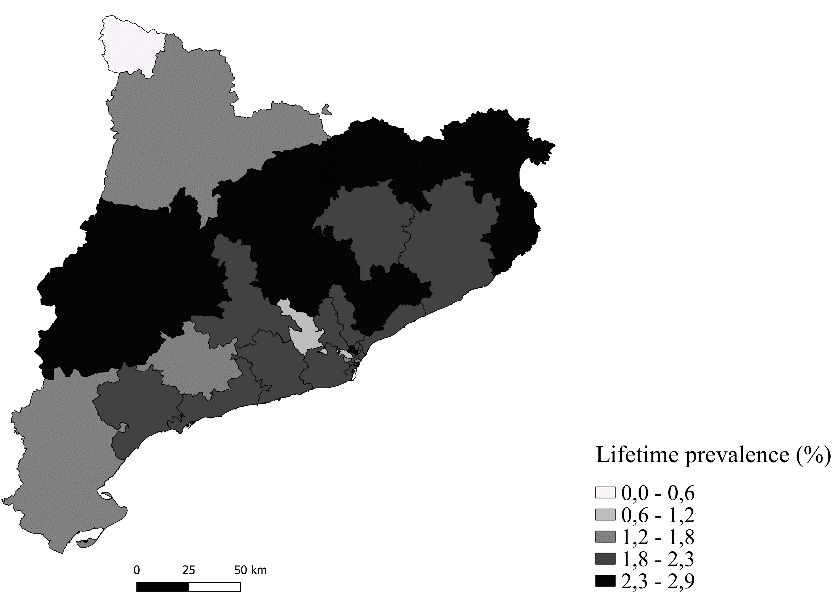
|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **Annual incidence of diagnoses (%)** | | | | | | | |
|  |  |  |  |  | **Sex** | |  | **Age groups** | | |
|  |  |  | **Total (95% CI)** |  | **Boys (95% CI)** | **Girls (95% CI)** | **2-6 years (95% CI)** | **7-12 years (95% CI)** | **13-18 years (95% CI)** |
| **Conduct disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009 |  | 0.35 (0.34-0.36) |  | 0.47 (0.46-0.49) | 0.22 (0.21-0.23) |  | 0.21 (0.20-0.22) | 0.41 (0.40-0.43) | 0.42 (0.40-0.44) |
|  | 2010 |  | 0.29 (0.28-0.30) |  | 0.38 (0.36-0.39) | 0.19 (0.18-0.20) |  | 0.23 (0.22-0.24) | 0.33 (0.32-0.35) | 0.30 (0.28-0.31) |
|  | 2011 |  | 0.28 (0.28-0.29) |  | 0.37 (0.34-0.38) | 0.19 (0.19-0.21) |  | 0.26 (0.25-0.28) | 0.33 (0.32-0.35) | 0.26 (0.24-0.27) |
|  | 2012 |  | 0.45 (0.44-0.46) |  | 0.55 (0.54-0.57) | 0.33 (0.32-0.35) |  | 0.41 (0.39-0.43) | 0.53 (0.51-0.56) | 0.39(0.37-0.41) |
|  | 2013 |  | 0.56 (0.54-0.57) |  | 0.68 (0.66-0.70) | 0.42 (0.41-0.44) |  | 0.51 (0.49-0.54) | 0.68 (0.66-0.70) | 0.46 (0.44-0.48) |
|  | 2014 |  | 0.57 (0.56-0.58) |  | 0.71 (0.69-0.73) | 0.43 (0.42-0.45) |  | 0.53 (0.51-0.55) | 0.69 (0.67-0.71) | 0.49 (0.47-0.51) |
|  | 2015 |  | 0.56 (0.55-0.57) |  | 0.68 (0.66-0.70) | 0.43 (0.42-0.45) |  | 0.53 (0.51-0.55) | 0.66 (0.64-0.69) | 0.47 (0.45-0.49) |
|  | 2016 |  | 0.56 (0.54-0.57) |  | 0.69 (0.67-0.71) | 0.41 (0.40-0.43) |  | 0.51 (0.49-0.53) | 0.66 (0.64-0.68) | 0.48 (0.46-0.50) |
|  | 2017 |  | 0.52 (0.51-0.53) |  | 0.65 (0.63-0.67) | 0.38 (0.37-0.40) |  | 0.50 (0.48-0.52) | 0.61 (0.59-0.64) | 0.43 (0.42-0.45) |
| **Eating disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009 |  | 0.13 (0.12-0.13) |  | 0.06 (0.06-0.07) | 0.20 (0.19-0.21) |  | 0.04 (0.04-0.05) | 0.08 (0.08-0.09) | 0.26 (0.24-0.27) |
|  | 2010 |  | 0.09 (0.09-0.10) |  | 0.04 (0.03-0.04) | 0.15 (0.14-0.16) |  | 0.03 (0.02-0.03) | 0.06 (0.06-0.07) | 0.18 (0.17-0.20) |
|  | 2011 |  | 0.08 (0.07-0.08) |  | 0.03 (0.03-0.04) | 0.13 (0.12-0.14) |  | 0.02 (0.02-0.03) | 0.05 (0.04-0.05) | 0.17 (0.15-0.18) |
|  | 2012 |  | 0.13 (0.12-0.13) |  | 0.06 (0.05-0.06) | 0.20 (0.19-0.21) |  | 0.07 (0.06-0.08) | 0.07 (0.06-0.08) | 0.26 (0.24-0.27) |
|  | 2013 |  | 0.17 (0.16-0.17) |  | 0.07 (0.06-0.08) | 0.27 (0.26-0.28) |  | 0.08 (0.07-0.09) | 0.09 (0.08-0.10) | 0.34 (0.33-0.36) |
|  | 2014 |  | 0.16 (0.15-0.17) |  | 0.07 (0.07-0.08) | 0.25 (0.24-0.26) |  | 0.07 (0.06-0.08) | 0.08 (0.07-0.09) | 0.33 (0.32-0.35) |
|  | 2015 |  | 0.15 (0.14-0.15) |  | 0.07 (0.06-0.08) | 0.23 (0.22-0.24) |  | 0.07 (0.06-0.08) | 0.09 (0.08-0.09) | 0.29 (0.28-0.31) |
|  | 2016 |  | 0.14 (0.13-0.14) |  | 0.08 (0.07-0.09) | 0.20 (0.19-0.21) |  | 0.08 (0.08-0.09) | 0.09 (0.08-0.10) | 0.24 (0.22-0.25) |
|  | 2017 |  | 0.13 (0.12-0.13) |  | 0.08 (0.07-0.09) | 0.18 (0.17-0.19) |  | 0.08 (0.07-0.09) | 0.08 (0.07-0.09) | 0.22 (0.21-0.24) |

CI: Confidence interval; IRR: Incidence risk ratio

# Supplementary Table 4 Incidence risk ratios for diagnoses of mood disorder, anxiety disorder, conduct disorder, and eating disorder in children aged 2-18 between 2009 and 2017, stratified by time periods

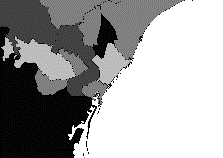
|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **IRR (95% CI)** | | | | | | | |
|  |  |  |  |  | **Sex** | |  | **Age group** | | |
|  |  |  | **Year** |  | **Boys** | **Girls** |  | **2-6 years** | **7-12 years** | **13-18 years** |
| **Mood disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009-2011 |  | 0.78 (0.74-0.82) |  | ref | 1.19 (1.09-1.30) |  | 0.11 (0.09-0.13) | ref | 2.76 (2.52-3.03) |
|  | 2011-2014 |  | 1.24 (1.20-1.28) |  | ref | 1.35 (1.26-1.44) |  | 0.15 (0.13-0.17) | ref | 3.14 (2.92-3.38) |
|  | 2014-2017 |  | 0.98 (0.95-1.00) |  | ref | 1.40 (1.31-1.49) |  | 0.16 (0.15-0.18) | ref | 3.15 (2.95-3.36) |
| **Anxiety disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009-2011 |  | 0.70 (0.67-0.73) |  | ref | 1.13 (1.06-1.21) |  | 0.30 (0.27-0.33) | ref | 1.07 (0.99-1.16) |
|  | 2011-2013 |  | 1.20 (1.15-1.25) |  | ref | 1.25 (1.17-1.34) |  | 0.31 (0.28-0.34) | ref | 1.17 (1.09-1.26) |
|  | 2013-2016 |  | 0.99 (0.97-1.02) |  | ref | 1.21 (1.13-1.28) |  | 0.30 (0.28-0.33) | ref | 1.37 (1.28-1.46) |
|  | 2016-2017 |  | 1.36 (1.23-1.51) |  | ref | 1.13 (1.02-1.25) |  | 0.32 (0.27-0.36) | ref | 2.28 (2.04-2.55) |
| **Conduct disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009-2011 |  | 0.92 (0.89-0.96) |  | ref | 0.50 (0.47-0.54) |  | 0.64 (0.60-0.70) | ref | 0.96 (0.89-1.03) |
|  | 2011-2014 |  | 1.26 (1.23-1.28) |  | ref | 0.60 (0.58-0.63) |  | 0.75 (0.71-0.79) | ref | 0.74 (0.70-0.78) |
|  | 2014-2017 |  | 0.98 (0.96-1.00) |  | ref | 0.61 (0.59-0.64) |  | 0.77 (0.74-0.81) | ref | 0.74 (0.70-0.77) |
| **Eating disorder** |  |  |  |  |  |  |  |  |  |  |
|  | 2009-2011 |  | 0.77 (0.71-0.83) |  | ref | 2.99 (2.63-3.40) |  | 0.51 (0.43-0.61) | ref | 3.07 (2.66-3.53) |
|  | 2011-2013 |  | 1.51 (1.40-1.63) |  | ref | 2.97 (2.61-3.37) |  | 0.91 (0.77-1.07 | ref | 3.51 (3.03-4.06) |
|  | 2013-2017 |  | 0.98 (0.95-1.01) |  | ref | 2.37 (2.17-2.59) |  | 0.98 (0.87-1.09) | ref | 3.04 (2.74-3.37) |

CI: confidence interval; IRR: incidence risk ratio; ref: reference category; All models were adjusted for year, sex, age group, and healthcare area. Time periods were based on separate increasing, decreasing and stabilizing parts encountered in visual inspection (as shown in Figure 2-3).

**Afbeelding met kaart

Automatisch gegenereerde beschrijvingAfbeelding met kaart, tekst

Automatisch gegenereerde beschrijvingAfbeelding met tekst

Automatisch gegenereerde beschrijvingAfbeelding met kaart, tekst

Automatisch gegenereerde beschrijvingAfbeelding met kaart, tekst

Automatisch gegenereerde beschrijving**

**B: Anxiety disorder**

**C: Conduct disorder**

**D: Eating disorder**

**A: Mood disorder**

Supplementary Figure 1 Lifetime prevalence (%) of diagnoses of mood disorder (A), anxiety disorder (B), conduct disorder (C), and eating disorder (D) per healthcare area in children aged 18 in Catalonia in 2017. The area of Barcelona is enlarged in the bottom right for each disorder.