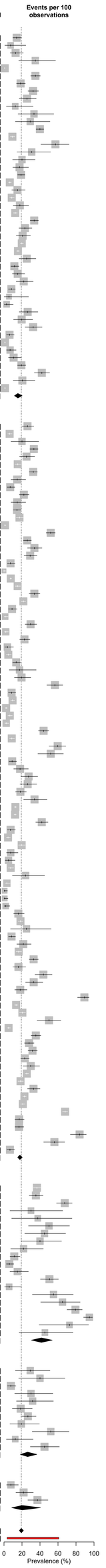
| Study | Number | Total | Prevalence (%) | 95%CI |
|---|---|---|---|---|
| **Sport = Outdoor** | | | | |
| Abbott et al., 2021 | 32 | 227 | 14.1 | [ 9.8; 19.3] |
| Armento et al., 2023 | 2 | 27 | 7.4 | [ 0.9; 24.3] |
| Barrack et al., 2008 | 12 | 93 | 12.9 | [ 6.8; 21.5] |
| Beals, 2002 | 8 | 23 | 34.8 | [16.4; 57.3] |
| Beekley et al., 2009 | 109 | 12731 | 0.9 | [ 0.7; 1.0] |
| Borgelt and Burmeister 2022 | 112 | 321 | 34.9 | [29.7; 40.4] |
| Brook et al., a 2019 | 48 | 260 | 18.5 | [13.9; 23.7] |
| Brook et al., b 2019 | 84 | 260 | 32.3 | [26.7; 38.4] |
| Cobb et al., 2003 | 23 | 90 | 25.6 | [16.9; 35.8] |
| Coelho et al., a 2013 | 3 | 24 | 12.5 | [ 2.7; 32.4] |
| Coelho et al., b 2013 | 8 | 24 | 33.3 | [15.6; 55.3] |
| Coelho et al., c 2013 | 7 | 24 | 29.2 | [12.6; 51.1] |
| Dervish et al., a 2023 | 209 | 524 | 39.9 | [35.7; 44.2] |
| Dervish et al., b 2023 | 49 | 525 | 9.3 | [ 7.0; 12.2] |
| Ferrand and Brunet 2004 | 24 | 42 | 57.1 | [41.0; 72.3] |
| Gibson et al., 2019 | 8 | 26 | 30.8 | [14.3; 51.8] |
| Godoy-Izquierdo and Díaz 2021 | 9 | 45 | 20.0 | [ 9.6; 34.6] |
| Gouttebarge and Kerkhoffs, a 2017 | 14 | 81 | 17.3 | [ 9.8; 27.3] |
| Gouttebarge et al., 2017 | 74 | 391 | 18.9 | [15.2; 23.2] |
| Hauck et al., 2020 | 66 | 1022 | 6.5 | [ 5.0; 8.1] |
| Joubert et al., 2022 | 15 | 100 | 15.0 | [ 8.6; 23.5] |
| Joubert et al., 2020 | 43 | 498 | 8.6 | [ 6.3; 11.5] |
| Karlsson et al., 2023 | 15 | 85 | 17.6 | [10.2; 27.4] |
| Kennedy et al., 2017 | 118 | 946 | 12.5 | [10.4; 14.7] |
| Lauder et al., 1999 | 142 | 423 | 33.6 | [29.1; 38.3] |
| Lauder et al., 1999 | 33 | 142 | 23.2 | [16.6; 31.1] |
| Marshall and Harber 1996 | 23 | 111 | 20.7 | [13.6; 29.5] |
| Muros et al., a 2020 | 403 | 2037 | 19.8 | [18.1; 21.6] |
| Muros et al., b 2020 | 311 | 2000 | 15.6 | [14.0; 17.2] |
| Nieves et al., 2016 | 23 | 91 | 25.3 | [16.7; 35.5] |
| Okano et al., a 2004 | 25 | 217 | 11.5 | [ 7.6; 16.5] |
| Pettersen et al., a 2016 | 18 | 118 | 15.3 | [ 9.3; 23.0] |
| Pettersen et al., b 2016 | 18 | 82 | 22.0 | [13.6; 32.5] |
| Prather et al., 2016 | 18 | 220 | 8.2 | [ 4.9; 12.6] |
| Pritchett et al., 2021 | 1 | 18 | 5.6 | [ 0.1; 27.3] |
| Reinking and Alexander, b 2005 | 2 | 68 | 2.9 | [ 0.4; 10.2] |
| Reinking, 2006 | 20 | 76 | 26.3 | [16.9; 37.7] |
| Riebl et al., 2007 | 12 | 61 | 19.7 | [10.6; 31.8] |
| Smith et al., 2020 | 33 | 102 | 32.4 | [23.4; 42.3] |
| Sophia et al., 2022 | 9 | 146 | 6.2 | [ 2.9; 11.4] |
| Tenforde et al., 2022 | 22 | 2107 | 1.0 | [ 0.7; 1.6] |
| Terry et al., 1999 | 7 | 103 | 6.8 | [ 2.8; 13.5] |
| Thiel et al., 1993 | 9 | 84 | 10.7 | [ 5.0; 19.4] |
| Thompson 2007 | 58 | 300 | 19.3 | [15.0; 24.3] |
| Torres-McGehee et al., 2011 | 58 | 138 | 42.0 | [33.7; 50.7] |
| Wheeler et al., 1986 | 10 | 49 | 20.4 | [10.2; 34.3] |
| Wu et al., 2022 | 23 | 2113 | 1.1 | [ 0.7; 1.6] |
| **Random effects model** | | 29195 | 15.4 | [11.6; 20.2] |
| Heterogeneity: $I^2$ = 97.86% [97.56%; 98.13%], $\tau^2$ = 1.22, $p$ = 0, $R_b$ = 92.61% | | | | |
| **Sport = Mixed** | | | | |
| Akesdotter et al., 2022 | 47 | 180 | 26.1 | [19.9; 33.2] |
| Anderson and Petrie 2012 | 26 | 414 | 6.3 | [ 4.1; 9.1] |
| Barrack et al., a 2023 | 6 | 30 | 20.0 | [ 7.7; 38.6] |
| Barrack et al., b 2023 | 144 | 434 | 33.2 | [28.8; 37.8] |
| Beals and Hill, 2006 | 28 | 112 | 25.0 | [17.3; 34.1] |
| Beals and Manore 2002 | 65 | 425 | 15.3 | [12.0; 19.1] |
| Beals and Manore 2002 | 138 | 425 | 32.5 | [28.0; 37.2] |
| Borowiec et al., a 2023 | 12 | 82 | 14.6 | [ 7.8; 24.2] |
| Borowiec et al., b 2023 | 11 | 159 | 6.9 | [ 3.5; 12.0] |
| Brown et al., 2014 | 53 | 240 | 22.1 | [17.0; 27.9] |
| Burrows et al., 2007 | 12 | 82 | 14.6 | [ 7.8; 24.2] |
| Byrne and McLean 2002 | 38 | 263 | 14.4 | [10.4; 19.3] |
| Carvalhais et al., 2019 | 64 | 372 | 17.2 | [13.5; 21.4] |
| Chatterton and Petrie 2013 | 8 | 732 | 1.1 | [ 0.5; 2.1] |
| Checa Olmos et al., a 2023 | 205 | 395 | 51.9 | [46.8; 56.9] |
| Checa Olmos et al., b 2023 | 102 | 395 | 25.8 | [21.6; 30.4] |
| Cox et al., 1997 | 48 | 142 | 33.8 | [26.1; 42.2] |
| De Borja et al., a 2021 | 48 | 165 | 29.1 | [22.3; 36.7] |
| De Borja et al., b 2021 | 12 | 165 | 7.3 | [ 3.8; 12.4] |
| De Borja et al., c 2021 | 0 | 165 | 0.0 | [ 0.0; 2.2] |
| Flatt et al., 2021 | 264 | 3509 | 7.5 | [ 6.7; 8.4] |
| Fortes et al., 2013 | 88 | 580 | 15.2 | [12.4; 18.4] |
| Ghazzawi et al., 2022 | 84 | 249 | 33.7 | [27.9; 40.0] |
| Giel et al., 2016 | 240 | 1115 | 21.5 | [19.1; 24.1] |
| Glotz et al., a 2013 | 14 | 156 | 9.0 | [ 5.0; 14.6] |
| Glotz et al., b 2013 | 2 | 156 | 1.3 | [ 0.2; 4.6] |
| Gouttebarge et al., 2017 | 60 | 203 | 29.6 | [23.4; 36.3] |
| Greenleaf et al., 2009 | 4 | 204 | 2.0 | [ 0.5; 4.9] |
| Gullivera et al., 2015 | 51 | 224 | 22.8 | [17.4; 28.8] |
| Hoch et al., 2009 | 3 | 80 | 3.8 | [ 0.8; 10.6] |
| Hopkinson and Lock, a 2004 | 12 | 250 | 4.8 | [ 2.5; 8.2] |
| Hopkinson and Lock, b 2004 | 34 | 250 | 13.6 | [ 9.6; 18.5] |
| Hulley and Hill 2001 | 5 | 29 | 17.2 | [ 5.8; 35.8] |
| Junge and Hauschild 2023 | 16 | 82 | 19.5 | [11.6; 29.7] |
| Kampouri et al., 2019 | 73 | 129 | 56.6 | [47.6; 65.3] |
| Karlson et al., 2001 | 17 | 201 | 8.5 | [ 5.0; 13.2] |
| Kristjánsdóttir et al., a 2019 | 72 | 755 | 9.5 | [ 7.5; 11.9] |
| Kristjánsdóttir et al., b 2019 | 18 | 755 | 2.4 | [ 1.4; 3.7] |
| Lichtenstein et al., 2021 | 27 | 417 | 6.5 | [ 4.3; 9.3] |
| Martínez Rodríguez et al., 2015 | 6 | 244 | 2.5 | [ 0.9; 5.3] |
| Martinovic et al., 2022 | 132 | 300 | 44.0 | [38.3; 49.8] |
| McLester et al., 2016 | 38 | 439 | 8.7 | [ 6.2; 11.7] |
| Meng et al., a 2020 | 68 | 114 | 59.6 | [50.1; 68.7] |
| Meng et al., b 2020 | 27 | 52 | 51.9 | [37.6; 66.0] |
| Michaels et al., 2023 | 18 | 198 | 9.1 | [ 5.5; 14.0] |
| Monthuy-Blanc et al., a 2010 | 17 | 95 | 17.9 | [10.8; 27.1] |
| Monthuy-Blanc et al., a 2010 | 26 | 95 | 27.4 | [18.7; 37.5] |
| Monthuy-Blanc et al., a 2010 | 25 | 95 | 26.3 | [17.8; 36.4] |
| Nichols et al., 2006 | 31 | 170 | 18.2 | [12.7; 24.9] |
| O'Connell et al., 2023 | 19 | 56 | 33.9 | [21.8; 47.8] |
| O'Leary et al., a 2023 | 383 | 3022 | 12.7 | [11.5; 13.9] |
| O'Leary et al., b 2023 | 373 | 3022 | 12.3 | [11.2; 13.6] |
| Pallotto et al., 2022 | 89 | 212 | 42.0 | [35.3; 48.9] |
| Peklaj et al., 2022 | 11 | 150 | 7.3 | [ 3.7; 12.7] |
| Pensgaard et al., 2021 | 17 | 378 | 4.5 | [ 2.6; 7.1] |
| Pernick et al., 2006 | 89 | 453 | 19.6 | [16.1; 23.6] |
| Petisco-Rodríguez et al., a 2020 | 6 | 80 | 7.5 | [ 2.8; 15.6] |
| Petisco-Rodríguez et al., b 2020 | 4 | 80 | 5.0 | [ 1.4; 12.3] |
| Petrie et al., 2009 | 25 | 336 | 7.4 | [ 4.9; 10.8] |
| Pettersen et al., c 2016 | 6 | 25 | 24.0 | [ 9.4; 45.1] |
| Poucher et al., a 2022 | 6 | 186 | 3.2 | [ 1.2; 6.9] |
| Poucher et al., b 2022 | 1 | 142 | 0.7 | [ 0.0; 3.9] |
| Poucher et al., c 2022 | 1 | 123 | 0.8 | [ 0.0; 4.4] |
| Poucher et al., d 2022 | 2 | 108 | 1.9 | [ 0.2; 6.5] |
| Rauh et al., 2010 | 26 | 163 | 16.0 | [10.7; 22.5] |
| Ravi et al., 2021 | 155 | 846 | 18.3 | [15.8; 21.1] |
| Reinking and Alexander, a 2005 | 4 | 16 | 25.0 | [ 7.3; 52.4] |
| Roberts and Kreipe 2003 | 19 | 226 | 8.4 | [ 5.1; 12.8] |
| Rogers et al., 2021 | 24 | 112 | 21.4 | [14.2; 30.2] |
| Rosendahl et al., 2009 | 94 | 576 | 16.3 | [13.4; 19.6] |
| Rousselet et al., 2017 | 112 | 340 | 32.9 | [28.0; 38.2] |
| Sharps et al., a 2022 | 18 | 112 | 16.1 | [ 9.8; 24.2] |
| Sharps et al., b 2022 | 49 | 112 | 43.8 | [34.4; 53.4] |
| Stackeov et al., 2023 | 33 | 100 | 33.0 | [23.9; 43.1] |
| Sundgot-Borgen 1993 | 24 | 133 | 18.0 | [11.9; 25.6] |
| Sundgot-Borgen 1994 | 92 | 103 | 89.3 | [81.7; 94.5] |
| Sundgot-Borgen and Torstveit 2004 | 170 | 1259 | 13.5 | [11.7; 15.5] |
| Sundgot-Borgen et al., 2003 | 113 | 553 | 20.4 | [17.1; 24.0] |
| Syed et al., 2022 | 30 | 60 | 50.0 | [36.8; 63.2] |
| Teixidor-Batlle et al., 2021 | 33 | 646 | 5.1 | [ 3.5; 7.1] |
| Thein-Nissenbaum et al., 2011 | 110 | 311 | 35.4 | [30.1; 41.0] |
| Thein-Nissenbaum et al., 2014 | 81 | 291 | 27.8 | [22.8; 33.4] |
| Thompsonnet al., a 2017 | 103 | 325 | 31.7 | [26.7; 37.1] |
| Thompsonnet al., b 2017 | 75 | 325 | 23.1 | [18.6; 28.0] |
| Torres-McGehee et al., 2009 | 30 | 101 | 29.7 | [21.0; 39.6] |
| Torres-McGehee et al., 2023 | 520 | 2054 | 25.3 | [23.4; 27.3] |
| Torstveit and Sundgot-Borgen 2005 | 123 | 669 | 18.4 | [15.5; 21.5] |
| Torstveit et al., 2007 | 61 | 186 | 32.8 | [26.1; 40.0] |
| Uriegas et al., 2023 | 428 | 1885 | 22.7 | [20.8; 24.7] |
| Uriegas et al., a 2021 | 228 | 1090 | 20.9 | [18.5; 23.5] |
| Uriegas et al., b 2021 | 740 | 1090 | 67.9 | [65.0; 70.7] |
| Vardar et al., 2005 | 37 | 220 | 16.8 | [12.1; 22.4] |
| Vardar et al., 2007 | 40 | 240 | 16.7 | [12.2; 22.0] |
| Whitehead et al., g 2020 | 63 | 75 | 84.0 | [73.7; 91.4] |
| Whitehead et al., h 2020 | 42 | 75 | 56.0 | [44.1; 67.5] |
| Wollenberg et al., 2015 | 10 | 151 | 6.6 | [ 3.2; 11.8] |
| **Random effects model** | | 39341 | 17.6 | [15.2; 20.4] |
| Heterogeneity: $I^2$ = 97.44% [97.18%; 97.68%], $\tau^2$ = 0.73, $p$ = 0, $R_b$ = 90.37% | | | | |
| **Sport = Gymnastics** | | | | |
| Al-Jumayan et al., 2021 | 205 | 560 | 36.6 | [32.6; 40.7] |
| Alwan et al., 2022 | 56 | 158 | 35.4 | [28.0; 43.4] |
| Devrim et al., 2018 | 81 | 120 | 67.5 | [58.3; 75.8] |
| Janout and Janoutová b 2004 | 3 | 10 | 30.0 | [ 6.7; 65.2] |
| Janout and Janoutová c 2004 | 3 | 8 | 37.5 | [ 8.5; 75.5] |
| Neves et al., a 2017 | 10 | 20 | 50.0 | [27.2; 72.8] |
| Neves et al., b 2017 | 9 | 20 | 45.0 | [23.1; 68.5] |
| Neves et al., c 2017 | 8 | 20 | 40.0 | [19.1; 63.9] |
| O'Connor et al., 1995 | 5 | 23 | 21.7 | [ 7.5; 43.7] |
| Okano et al., b 2004 | 16 | 140 | 11.4 | [ 6.7; 17.9] |
| Okano et al., c 2004 | 9 | 153 | 5.9 | [ 2.7; 10.9] |
| Ravaldi et al., b 2003 | 8 | 54 | 14.8 | [ 6.6; 27.1] |
| Walberg and Johnston 1991 | 52 | 103 | 50.5 | [40.5; 60.5] |
| Waryasz et al., 2020 | 2 | 35 | 5.7 | [ 0.7; 19.2] |
| Whitehead et al., a 2020 | 11 | 20 | 55.0 | [31.5; 76.9] |
| Whitehead et al., b 2020 | 13 | 20 | 65.0 | [40.8; 84.6] |
| Whitehead et al., c 2020 | 77 | 97 | 79.4 | [70.0; 86.9] |
| Whitehead et al., d 2020 | 92 | 97 | 94.8 | [88.4; 98.3] |
| Whitehead et al., e 2020 | 8 | 11 | 72.7 | [39.0; 94.0] |
| Whitehead et al., f 2020 | 5 | 11 | 45.5 | [16.7; 76.6] |
| **Random effects model** | | 1680 | 41.5 | [30.4; 53.6] |
| Heterogeneity: $I^2$ = 92.9% [90.37%; 94.76%], $\tau^2$ = 1.03, $p$ < 0.001, $R_b$ = 83.88% | | | | |
| **Sport = Marital Art** | | | | |
| Brown et al., 2020 | 7 | 24 | 29.2 | [12.6; 51.1] |
| Doyle-Lucas et al., 2010 | 6 | 15 | 40.0 | [16.3; 67.7] |
| Escobar-Molina et al., 2015 | 11 | 144 | 7.6 | [ 3.9; 13.3] |
| Filaire et al., 2011 | 6 | 20 | 30.0 | [11.9; 54.3] |
| Hoch et al., 2011 | 7 | 22 | 31.8 | [13.9; 54.9] |
| Janout and Janoutová a 2004 | 10 | 54 | 18.5 | [ 9.3; 31.4] |
| Ravaldi et al., a 2003 | 30 | 113 | 26.5 | [18.7; 35.7] |
| Robbeson et al., a 2015 | 5 | 26 | 19.2 | [ 6.6; 39.4] |
| Robbeson et al., b 2015 | 13 | 25 | 52.0 | [31.3; 72.2] |
| Rouveix et al., 2007 | 3 | 24 | 12.5 | [ 2.7; 32.4] |
| Staal et al., 2018 | 18 | 40 | 45.0 | [29.3; 61.5] |
| **Random effects model** | | 507 | 26.3 | [18.1; 36.4] |
| Heterogeneity: $I^2$ = 76.57% [58.04%; 86.92%], $\tau^2$ = 0.47, $p$ < 0.001, $R_b$ = 72.63% | | | | |
| **Sport = Swimming** | | | | |
| Schtscherbyna et al., a 2009 | 6 | 78 | 7.7 | [ 2.9; 16.0] |
| Schtscherbyna et al., b 2009 | 17 | 78 | 21.8 | [13.2; 32.6] |
| Schtscherbyna et al., c 2009 | 29 | 78 | 37.2 | [26.5; 48.9] |
| **Random effects model** | | 234 | 20.2 | [ 8.6; 40.6] |
| Heterogeneity: $I^2$ = 88.28% [67.43%; 95.78%], $\tau^2$ = 0.67, $p$ < 0.001, $R_b$ = 87.03% | | | | |
| **Random effects model** | | **70957** | **19.2** | **[17.0; 21.6]** |
| **Prediction interval** | | | | **[ 3.5; 60.9]** |

Heterogeneity: $I^2$ = 97.37% [97.17%; 97.56%], $\tau^2$ = 0.90, $p$ = 0, $R_b$ = 89.77%
Test for subgroup differences: $\chi^2_4$ = 26.13, df = 4 ($p$ < 0.001)