**Supplementary Table 1. Quality Assessment**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cross Sectional and Cohort Studies (C-CS)** | | | | | | | | | | | | | | | | | | **Case-Control**  **Studies (CC)** | | | |
|  | Arruda, M. A. (2012) | Bakoula, C. (2006) | Balague, F. (1994) | Boey, C. C. (2003) | Boey, C. C. M. (1999) | Campo, J. V. (2002) | Devanarayana, N. M. (2008) | Eryilmaz, G.(2010) | Ho, G. H. (2009) | Low Kapalu, C.M. et al. (2018) | Metsähonkala, L. (1998) | Modin, B,. et.al. (2015) | Pecor, K., et.al. (2016) | Rocha‐Filho, P. A. S. (2014) | Sabia, J. J. (2011) | Santinello, M. (2009) | Shehab, D. K. (2005) | Waldie, K. E. (2007) | | Vervoort, T., et al. (2014) | Durmaz, Y., et al. (2013) | Kashikar-Zuck, S. (2007) |
| 1. Research question or objective clearly stated | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | **X** |
| 1. **S**tudy population clearly specified and defined \*\* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | o | **X** | o | o | **X** | **X** | **X** | o | **X** | | **X** | **X** | o |
| 1. C-CS: Participation rate ≥ 80% \*\* | o | **X** | **X** | **X** | **X** | **X** | **X** | **X** | o | **X** | **X** | o | nr | **X** | ? | (o) | nr | nr | | **o** |  |  |
| 1. C-CS: Participants representative of the target population\* | o | **X** | **X** | **X** | ? | (o) | **X** | **X** | o | o | **X** | **X** | o | (o) | **X** | **X** | ? | **X** | | o |  |  |
| 1. a) Subjects/cases from the same/similar populations/time period \*\* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | na | o | **X** | **X** | **X** | **X** | **X** | **X** | ? | **X** | | **X** | **X** | ? |
| b) Inclusion and exclusion criteria’s pre-specified and applied uniformly to all participants \*\* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | na | **X** | **X** | **nr** | **X** | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | **X** |
| 1. Sample size justification, power description, or variance and effect estimates provided \*\* | nr | nr | nr | **X** | nr | (nr) | nr | (o) | nr | o | nr | o | o | **X** | (nr) | (nr) | nr | (nr) | | (nr) | **X** | **X** |
| 1. Exposure measured prior to outcome \*\* | o | o | o | o | o | o | o | o | o | o | o | o | o | o | **X** | o | o | **X** | | o | o | o |
| 1. C-CS: Timeframe sufficient to capture an association in terms of effect | o | o | o | o | o | o | o | o | o | o | o | o | o | o | **X** | o | o | **X** | | o |  |  |
| 1. C-CS: Different levels of exposure examined. | o | o | o | o | o | o | **X** | **X** | o | o | o | o | o | **X** | o | **X** | **X** | o | | **X** |  |  |
| 1. Pain measure: a) Cleary defined \* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | o | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | **X** |
| b) Valid \*\* | ? | o | nr | (o) | o | **X** | ? | **X** | **X** | **X** | nr | nr | nr | **X** | nr | **X** | nr | nr | | **X** | **X** | **X** |
| c) Reliability\*\* | ? | o | nr | (o) | o | **X** | ? | **X** | **X** | **X** | nr | nr | nr | **X** | nr | **X** | nr | nr | | **X** | **X** | **X** |
| d) Implemented consistently\*\* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | ? | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | **X** |
| e) Subjectively rated \* | o | o | **X** | **X** | o | o | o | **X** | ? | **X** | o | **X** | **X** | **X** | o | **X** | **X** | o | | **X** | **X** | o |
| 1. C-CS: Exposure assessed more than once over time | o | o | o | o | o | o | o | o | o | o | o | o | o | o | ? | o | o | **X** | | o |  |  |
| 1. Academic achievement measure: a) Clearly defined \*\* | **X** | **X** | **X** | **X** | o | o | **X** | o | **X** | **X** | **X** | **X** | **X** | **X** | **X** | o | o | **X** | | **X** | **X** | o |
| b) Valid \*\* | **X** | **X** | **X** | **X** | nr | **X** | **X** | nr | **X** | **X** | nr | **X** | nr | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | nr |
| c) Reliable \*\* | **X** | **X** | **X** | **X** | nr | **X** | **X** | nr | **X** | **X** | nr | **X** | nr | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | nr |
| d) Implemented consistently \*\* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | o | o | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | | **X** | **X** | X |
| e) Objectively rated \* | **X** | **X** | **X** | **X** | **X** | **X** | **X** | o | **X** | **X** | **X** | o | o | **X** | ? | o | nr | **X** | | o | **X** | nr |
| 1. Outcome assessor blinded to exposure status \* | **X** | ? | o | ? | ? | o | ? | o | o | o | o | o | o | **X** | ? | o | o | **X** | | o | **X** | o |
| 1. Attrition rate ≤ 20% \*\* | na | na | na | na | na | na | na | na | na | na | na | na | na | na | o | na | na | **X** | | na | na | na |
| 1. C-CS: ≥ 2 key confounders accounted for \*   CC: Matching accounted for in analysis | o | **X** | o | **X** | **X** | o | o | o | o | **X** | **X** | o | o | **X** | **X** | **X** | **X** | o | | o | **X** | **X** |
| 1. CC: Cases clearly defined and differentiated from controls \* |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | **X** | **X** |
| 1. CC: Cases and/or controls randomly selected (if not 100% of cases) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | na | na |
| 1. CC: Concurrent controls used |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | |  | o | o |
| **Global study quality** | Poor | Poor | Poor | Fair | Poor | Fair | Poor | Poor | Poor | Poor | Poor | Poor | Poor | Fair | Poor | Fair | Poor | Poor | | Poor | Fair | Poor |

X: yes; o: no; nr: not reported, na: not applicable, ?: unclear  
\*/ \*\* Key criteria’s for global study quality rating; Study quality rated GOOD if all key criteria’s met (marked \* or \*\*); FAIR if the violation was not substantial for any of the high priority key criteria’s 2-7, 10 b-d, 12 b-d or 14 (marked \*\*) ; POOR if at least one of the high priority key criteria’s 2-7, 10 b-d, 12 b-d or 14 (marked \*\*) not reported OR clearly violated.  
(o); violated but not substantial; (nr); violated but not substantial.  
C-CS: only Cross Sectional and cohort studies; CC: only Case-Control studies