Appendix Table *(A. risk of bias*).

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Study | 1 | 2 | 3/4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Amella (1999) | Cohort/staff | 1 | 1 | 2 | 2 | 2 | Continuous | 1:10 | Unclear | Correlations, multiple regression | N/A | ++ |
| Bahareethan & Shah (2000) | Cohort | 1 | 1 | 2 | 2 | 2 | Continuous | 1:13 | Unclear | N/A  | N/A | 0  |
| Ballard *et al.* (2001) | Cohort | 1 | 1 | 2 | 2 | 2 | Dichotomous, continuous | 16:35 | Unclear | Linear regression: All predictors included | a priori | ++  |
| Beer *et al.* (2010) | Cohort | 1 | 1 | 2 | 2 | 3 | Dichotomous, continuous | 5:19 | Unclear | Backward stepwise regression | N/A | ++  |
| Beerens *et al.* (2014) | Cohort | 1 | 1 | 2 | 2 | 3 | Continuous | 11:9 | Yes | Multilevel hierarchical regression | N/A | ++  |
| Bravo *et al.* (1999) | Cohort | 1 | 1 | 2 | 2 | 2 | Continuous, dichotomous | 2:23 | Yes | Stepwise multiple linear regression analysis | N/A | ++  |
| Chang & Roberts (2011) | Cohort | 1 | 1 | 2 | 2 | 2 | Continuous | 2:7 | Unclear | Logistical regression: All predictors included | a priori | ++ |
| Chappell & Reid (2000) | Cohort | 1 | 1 | 2 | 1 | 1 | Continuous | 8:19 | Yes | Linear regression: All predictors included | N/A | ++  |
| Crespo *et al.* (2013) | Cohort | 1 | 1 | 2 | 2 | 2 | Dichotomous, continuous | 3:57 | Unclear | Correlations, Stepwise multiple linear regression analysis | N/A | + |
| De Roo *et al.* (2014) | Cohort | 1 | 1 | 2 | 2 | 1 | Continuous | 1:17 | Unclear | Correlations | Unclear | + |
| Dobbs *et al.* (2005) | Cohort | 1 | 1 (99 residents self-report) | 2 | 2 | 2 | Categorical, continuous | 3:34 | Unclear | Odds Ratio | a priori | +  |
| Edvardsson *et al.* (2008) | From intervention | 1 | 1 | 2 | 2 | 2 | Categorical, continuous | 1:14 | Unclear | N/A | a priori | 0 |
| Edvardsson *et al.* (2014) | Cohort | 1 | 1 | 2 | 2 | 2 | Categorical, continuous | 3:5 | Unclear | N/A | a priori | 0 |
| Fitzgerald *et al.* (2009) | Cohort | 1 | 1 | 2 | 1 | 1 | Continuous, categorical | 12:12 | Unclear | Multilevel/hierarchical linear and logistic regression | Unclear | ++ |
| Huizing *et al.* (2007) | Cohort/MDS | 1 | 1 | 2 | 2 | 2 | Continuous, categorical | 3;11 | Unclear | Bivariate and Multi-level model. All variables entered | N/A | ++ |
| Isaksson *et al.* (2009) | Cohort | 1 | 1 | 2 | 2 | 2 | Categorical | 2:33 | Yes | Mann–Whitney U-test, Chi-squared test, discriminant analysis | Median Split. | + |
| Karlsson *et al.* (2001) | Cohort/MDS | 1 | 1 | 2 | 2 | 2 | Dichotomous, continuous | 4:58 | Unclear | Significant variables with restraint were included in a discriminant analysis: stepwise approach | Median split | ++ |
| Kim & Whall (2006) | Cohort/state website | 1 | 1 | 2 | 2 | 2 | Dichotomous, linear | 1:10 | Unclear | Odds ratios | a priori | + |
| Kleijer *et al.* (2014) | MDS | 1 | 1 | 2 | 2 | 1 | Categorical | 3:28 | Unclear | N/A | N/A | 0  |
| Lin *et al.* (2010) | Cohort  | 1 | 1 | 2 | 1 | 2 | Categorical, continuous, dichotomous  | 2:15 | No | Odds Ratio and forward stepwise regression  | Median split  | ++  |
| Lin *et al.* (2011) | Cohort | 1 | 1 | 2 | 2 | 2 | Dichotomous, categorical | 1:16 | Unclear | Chi-square test and t-test. A forward stepwise logistic regression model and forward stepwise regression model | a priori | ++  |
| McGilton *et al.* (2012) | Cohort | 1 | 1 | 2 | 2 | 2 | Categorical, dicotomous | 3:39 | Unclear | ANOVA. All predictors | a priori | 0 |
| Miu & Chan (2014) | Cohort | 1 | 1 | 2 | 2 | 2 | Dichotomous, categorical, continuous | 2:17 | Unclear | T-tests or the Mann Whitney U test, Chi – square, logistic regression | N/A | + |
| Mjørud *et al.* (2014) | RCT Control  | 1 | 1 | 2 | 2 | 2 | Dichotomous, categorical, continuous | 11:29 | Yes | Mann-Whitney U-test, Kruskal-Wallis test, paired sample t-test. Linear regression analyses. Regression: enter and the backward method  | N/A | ++  |
| Reed *et al.* (2005) | Cohort | 1 | 1 | 2 | 2 | 2 | Categorical, continuous | 4:44 | Unclear | Bivariate linear and logistic regression models | a priori | ++ |
| Reid & Chappell (2003) | Cohort | 1 | 1 | 2 | 1 | 1 | Continuous | 6:9 | Yes | All predictors | N/A | + |
| Schreiner *et al.* (2005) | Cohort | 1 | 1 | 1 | 2 | 2 | Dichotomous  | 15:2 | Unclear | All predictors | N/A | +  |
| Sjögren *et al.* (2013) | Staff Survey  | 1 | 1 | 3 | 2 | 2 | Continuous, dichotomous | 2:15 | Unclear | N/A | N/A | ++  |
| Slaughter *et al.* (2011a) | Cohort | 2 | 1 | 2 | 2 | 1 | Dichotomous  | 2:19 | Unclear | Hazard ratios | a priori | ++  |
| Slaughter *et al.* (2011b) | As Above | 2 | 1 | 2 | 2 | 1  | Dichotomous | 2:19 | Yes  | Hazard ratios | a priori | ++  |
| Slaughter & Hayduk (2012) | As Above | 2 | 1 | 2 | 2 | 1 | Continuous, dichotomous | 3:13 | Yes | Maximum likelihood coefficients | a priori | ++  |
| Sloane *et al.* (1998) | Cohort  | 1 | 1 | 2 | 2 | 2 | Continuous | 2:47 | Unclear | Backward stepwise regression |  N/A | + |
| van Beek *et al.* (2013) | Staff | 1 | 1 | 2 | 1 | 2 | Categorical, continuous, dichotomous | 2:20 | Unclear | Multilevel analysis | N/A | ++  |
| Zuidema *et al.* (2010) | Cohort – part of a larger study | 1 | 1 | 3 | 2 | 2 | Continuous, dichotomous  | 7:15 | Unclear | Odds Ratio, forward stepwise regression | N/A | +  |
| Zuidema *et al.* (2011) | As above | 1 | 1 | 2 | 2 | 2 | Continuous  | 4:16 | Unclear | Multilevel logistic regression analysis | N/A | + |

1. Source of Data; 2. Timing of Outcome Collection (1=Same time as predictors, 2=After predictor data collected); 3. Definition and method for measurement of outcome (Yes=1, No=2); 4. Was the same outcome definition (and method for measurement) used in all residents? (Yes=1, No=2); 5. Outcome assessed without knowledge of the candidate predictors? (Yes=1, No=2, Unclear=3); 6. Were candidate predictors part of the outcome? (Yes=1, No=2); 7. Were predictors assessed blinded for outcome, and for each other? (Yes=1, No=2, Unclear=3); 8. Handling of predictors in the modelling; 9. No. of outcomes/events in relation to the no. of predictors; 10. Modelling assumptions satisfied; 11. Method for selection of predictors for inclusion in multivariable modelling and Method for selection of predictors during multivariable modelling and criteria used; 12. Classification measures and whether a priori cut points were used; 13. Quality of Statistics (From -=Low Quality, ++=High Quality)

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