**SDC 2 (Table).** Quality assessment of studies included in the meta-analysis a

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Study, year of publication | Study sample(0 to 4) | VO2max assessment(0 to 2) | Qmax assessment (0 to 3) | a-vO2diff assessment(0 or 1) | Confounding variables (0 to 3) | Data(0 to 3) | Total quality score |
| Bonne et al ([2](#_ENREF_2)), 2014 | 1 | 2 | 2 | 0 | 1 | 2 | 8 |
| Wang et al ([9](#_ENREF_9)), 2014 | 3 | 2 | 2 | 0 | 3 | 3 | 13 |
| Weng et al A ([10](#_ENREF_10)), 2013 | 2 | 2 | 0 | 0 | 2 | 2 | 8 |
| Weng et al B ([10](#_ENREF_10)), 2013 | 2 | 2 | 0 | 0 | 2 | 2 | 8 |
| Macpherson et al ([5](#_ENREF_5)), 2011 | 1 | 1 | 1 | 0 | 1 | 3 | 7 |
| Murias et al ([6](#_ENREF_6)), 2010 | 1 | 1 | 0 | 0 | 2 | 3 | 8 |
| Helgerud et al A ([3](#_ENREF_3)), 2007 | 1 | 2 | 2 | 0 | 2 | 3 | 10 |
| Helgerud et al B ([3](#_ENREF_3)), 2007 | 1 | 2 | 2 | 0 | 2 | 3 | 10 |
| Helgerud et al C ([3](#_ENREF_3)), 2007 | 1 | 2 | 2 | 0 | 2 | 3 | 10 |
| Helgerud et al D ([3](#_ENREF_3)), 2007 | 1 | 2 | 2 | 0 | 2 | 3 | 10 |
| Beere et al ([1](#_ENREF_1)), 1999 | 3 | 0 | 1 | 1 | 1 | 2 | 8 |
| Spina et al ([8](#_ENREF_8)), 1992 | 1 | 2 | 2 | 0 | 1 | 2 | 8 |
| Klausen et al ([4](#_ENREF_4)), 1982 | 1 | 0 | 1 | 1 | 1 | 2 | 6 |

a-vO2diff, arteriovenous oxygen difference; Qmax, maximal cardiac output; VO2max, maximal oxygen consumption

a Adapted from to the Systematic Appraisal of Quality for Observational Research (SAQOR) ([7](#_ENREF_7))

**References**

1. Beere PA, Russell SD, Morey MC, Kitzman DW, Higginbotham MB. Aerobic exercise training can reverse age-related peripheral circulatory changes in healthy older men. *Circulation*. 1999;100(10):1085-94.

2. Bonne TC, Doucende G, Fluck D et al. Phlebotomy eliminates the maximal cardiac output response to six weeks of exercise training. *Am J Physiol Regul Integr Comp Physiol*. 2014;306(10):R752-60.

3. Helgerud J, Hoydal K, Wang E et al. Aerobic high-intensity intervals improve VO2max more than moderate training. *Med Sci Sports Exerc*. 2007;39(4):665-71.

4. Klausen K, Secher NH, Clausen JP, Hartling O, Trap-Jensen J. Central and regional circulatory adaptations to one-leg training. *Journal of Applied Physiology Respiratory Environmental and Exercise Physiology*. 1982;52(4):976-83.

5. Macpherson RE, Hazell TJ, Olver TD, Paterson DH, Lemon PW. Run sprint interval training improves aerobic performance but not maximal cardiac output. *Med Sci Sports Exerc*. 2011;43(1):115-22.

6. Murias JM, Kowalchuk JM, Paterson DH. Time course and mechanisms of adaptations in cardiorespiratory fitness with endurance training in older and young men. *J Appl Physiol (1985)*. 2010;108(3):621-7.

7. Ross LE, Grigoriadis S, Mamisashvili L et al. Quality assessment of observational studies in psychiatry: an example from perinatal psychiatric research. *Int J Methods Psychiatr Res*. 2011;20(4):224-34.

8. Spina RJ, Ogawa T, Martin WH, Coggan AR, Holloszy JO, Ehsani AA. EXERCISE TRAINING PREVENTS DECLINE IN STROKE VOLUME DURING EXERCISE IN YOUNG HEALTHY-SUBJECTS. *Journal of Applied Physiology*. 1992;72(6):2458-62.

9. Wang E, Naess MS, Hoff J et al. Exercise-training-induced changes in metabolic capacity with age: the role of central cardiovascular plasticity. *Age (Dordr)*. 2014;36(2):665-76.

10. Weng TP, Huang SC, Chuang YF, Wang JS. Effects of interval and continuous exercise training on CD4 lymphocyte apoptotic and autophagic responses to hypoxic stress in sedentary men. *PLoS One*. 2013;8(11).