

Online Resource 1: Quality Assessment

Correlates and determinants of cardiorespiratory fitness in adults: a systematic review

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- Each category was scored 'yes'=1, 'no'=0, 'not reported (NR)'=0 or 'not applicable'=not taken into account for calculation
- Underlined categories were multiplied by a factor of 1,5
- Final assessment was calculated by sum of scores divided by maximal score.
- Risk of bias was categorized as high when < 49% requirements met, moderate when 50–75% requirements met, and low when >75% requirements met

Categories:

1. Was the research question clearly stated?
2. Were the correlates of cardiorespiratory fitness being investigated clearly stated?
3. Was the outcome of cardiorespiratory fitness clearly stated?
4. Was the study population clearly defined?
5. Were the participants sampled using a probability-based sampling strategy?
6. Was the sampling frame at a national level?
7. If participants were selected from clusters, were the number of clusters ≥ 50 ?
8. Were the inclusion and exclusion criteria for being in the study pre-specified?
9. Was the response rate of eligible participants >50%?
10. Was loss to follow-up in cohort studies after baseline 20% or less?
11. Where applicable, were the correlate(s) of cardiorespiratory fitness and potential confounders objectively measured through validated instruments?
12. Was the outcome variable clearly defined, valid, reliable, and reliable?
13. Was cardiorespiratory fitness measured using an objective, reliable, and validated methodology?
14. Was cardiorespiratory fitness measured consistently for all participants?
15. Were key potential confounding variables measured and adjusted for statistically to account for their impact on the relationship between the exposure and outcome variables (Age, sex, PA, measure of body weight)? [factor 1,5]
16. Did the study investigate interaction between exposure variables?
17. Was any sensitivity analysis conducted?
18. Did authors report their funding source and/or make a statement regarding conflicts of interest?

Table OR1.1 Customized risk of bias assessment

	Ref. ¹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Final Assessment	Risk Evaluation
Abramowitz	[1]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	1	1	1	100,0%	Low
Agarwal	[2]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	0	0	1	1	85,7%	Low
Allen	[3]	1	0	1	1	0	0	0	0	NR	NA	1	1	1	1	0	0	0	0	40,0%	High
Ardestani	[4]	1	1	1	1	NR	NR	NR	1	NR	NA	1	1	1	1	1,5	1	1	1	77,1%	Low
Babcock	[5]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Barnekow-Bergkvist 1998	[6]	1	1	1	1	0	1	NA	1	NR	0	1	1	1	0	0	0	0	1	54,1%	Moderate
Barnekow-Bergkvist 2001	[7]	1	1	1	1	0	1	NA	1	NR	0	1	1	1	0	0	0	0	1	54,1%	Moderate
Bernaards	[8]	1	1	1	1	0	0	0	1	NR	NR	1	1	1	1	1,5	1	1	1	73,0%	Moderate
Bijlsma	[9]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Binder	[10]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Blair	[11]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	0	1	1	0	62,9%	Moderate
Braun	[12]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	0	1	1	0	85,7%	Low
Cao	[13]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Ceaser	[14]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	0	1	1	94,3%	Low
Cleland	[15]	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	1	1	75,7%	Low
Dagan	[16]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	1	1	1	77,1%	Low
Dehn	[17]	1	1	1	1	0	0	0	0	NR	NA	1	1	1	1	0	0	1	1	57,1%	Moderate
Dyrstad	[18]	1	1	1	1	0	1	0	1	NR	NA	1	1	1	1	1,5	0	1	1	77,1%	Low
Farrell	[19]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	0	0	0	0	51,4%	High
Finger	[20]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	1	0	1	94,3%	Low
Fleg 1988	[21]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	0	0	1	NR	57,1%	Moderate
Fleg 2005	[22]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	0	0	1	1	NR	57,1%	Moderate
Fogelholm	[23]	1	1	1	1	0	1	0	1	1	NA	1	1	1	1	0	1	1	1	80,0%	Low
Franks	[24]	1	1	1	1	1	1	NR	1	NR	NR	1	1	1	1	0	1	1	1	75,7%	Low
Gläser 2010	[25]	1	1	1	1	1	1	NR	1	1	NA	1	1	1	1	1,5	0	1	1	88,6%	Low
Gläser 2011	[26]	1	1	1	1	1	1	NR	1	1	NA	1	1	1	1	0	1	1	1	85,7%	Low
Grigaliuniene	[27]	1	0	1	1	0	0	0	1	NR	NA	1	1	1	1	0	0	0	0	45,7%	High
Gulati	[28]	1	1	1	1	0	1	0	1	NR	NA	1	1	1	1	0	0	0	1	62,9%	Moderate
Habedank	[29]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Hakola	[30]	1	0	1	1	1	1	NR	1	1	NA	1	1	1	1	0	0	1	1	74,3%	Moderate
Hancox	[31]	1	1	1	1	0	1	NR	1	1	1	1	1	1	1	1,5	0	1	1	83,8%	Low
Hawari	[32]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	1,5	0	0	1	65,7%	Moderate

Heil	[33]	1	0	1	1	0	0	0	1	NR	NA	1	1	1	1	1,5	0	1	1	65,7%	Moderate
Hoehner	[34]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	1	1	1	77,1%	Low
Inbar	[35]	1	0	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	0	1	0	60,0%	Moderate
Ittermann	[36]	1	1	1	1	1	1	0	1	1	NA	1	1	1	1	1,5	0	1	1	88,6%	Low
Jackson	[37]	1	1	1	1	0	0	0	1	NR	NR	1	1	1	1	1,5	1	0	1	67,6%	Moderate
Kemper	[38]	1	1	1	1	0	0	0	1	NR	0	1	1	1	1	1,5	1	1	1	73,0%	Moderate
Kim 2011	[39]	1	1	1	1	0	0	0	0	NR	NA	1	1	1	1	0	0	0	1	51,4%	Moderate
Koch	[40]	1	1	1	1	1	1	0	1	1	0	1	1	1	1	0	1	1	1	81,1%	Low
Kondo	[41]	1	1	0	1	0	0	0	1	NR	NA	1	0	1	1	0	0	0	0	40,0%	High
Kulinski	[42]	1	1	1	1	1	1	0	1	1	NA	1	1	1	1	1,5	0	1	1	88,6%	Low
Kuo 2005	[43]	1	1	1	1	1	1	0	1	1	NA	1	1	1	1	1,5	1	1	1	94,3%	Low
Kuo 2007	[44]	1	1	1	1	1	1	0	1	1	NA	1	1	1	1	1,5	0	1	0	82,9%	Low
Lakka	[45]	1	1	1	1	1	0	0	NR	NR	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Landhuis	[46]	1	1	1	1	NR	0	NR	1	1	1	1	1	1	1	0	0	1	1	70,3%	Moderate
Laukkanen	[47]	1	1	1	1	1	0	0	1	0	NA	1	1	1	1	0	0	0	1	62,9%	Moderate
Lefevre 2002	[48]	1	0	1	1	1	1	NR	0	NR	0	1	1	1	1	0	0	1	1	59,5%	Moderate
MacAuley	[49]	1	1	1	1	1	1	NR	1	1	NA	1	1	1	1	1,5	0	0	1	82,9%	Low
Mainous	[50]	1	1	1	1	1	1	1	1	NR	NA	1	1	1	1	1,5	0	1	1	88,6%	Low
Makrides	[51]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	0	0	1	1	62,9%	Moderate
Nokes	[52]	1	1	1	1	0	0	0	0	NA	NA	1	1	1	1	0	0	0	0	45,7%	High
Plowman	[53]	1	0	1	0	0	0	0	0	0	NA	1	1	1	1	0	0	1	1	45,7%	High
Sanada	[54]	1	1	1	1	0	0	0	NR	NA	NA	1	1	1	1	0	0	0	0	45,7%	High
Sandvik	[55]	1	1	1	1	0	0	0	1	1	NA	1	1	1	1	0	0	0	0	57,1%	Moderate
Seccareccia	[56]	1	0	1	1	0	1	0	1	1	NA	1	1	1	1	1,5	0	0	1	71,4%	Moderate
Shikany	[57]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	1	1	1	100,0%	Low
Shmueli	[58]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	1	1	0	71,4%	Moderate
Sidney 1992	[59]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	0	1	1	94,3%	Low
Sidney 1998	[60]	1	0	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	0	1	1	88,6%	Low
Singhal	[61]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	0	0	1	65,7%	Moderate
Strand	[62]	1	1	1	1	NR	0	0	1	1	NA	1	1	1	1	1,5	1	1	1	82,9%	Low
Sui	[63]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	1,5	0	0	1	65,7%	Moderate
Svedenkrans	[64]	1	1	1	1	0	1	0	1	NA	NA	1	1	1	1	0	0	0	1	62,9%	Moderate
Talbot	[65]	1	1	1	1	0	0	0	1	NR	NA	1	1	1	1	1,5	0	0	1	65,7%	Moderate
Tammelin	[66]	1	1	1	1	0	1	0	1	1	NA	1	1	1	1	0	0	1	1	74,3%	Moderate
Thai	[67]	1	1	1	1	1	1	1	1	1	NA	1	1	1	1	1,5	1	1	1	100,0%	Low
Tobita	[68]	1	1	1		1	0	0	1	NA	NA	1	1	1	1	1,5	0	0	0	60,0%	Moderate

Toth	[69]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	0	0	1	65,7%	Moderate
Twisk	[70]	1	1	1		0	1	0	1	1	0	1	1	1	1	0	1	1	1	70,3%	Moderate
Vrijlandt	[71]	1	1	1	1	0	0	NA	1	NR	NR	1	1	1	1	0	0	1	1	59,5%	Moderate
Wong	[72]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	0	0	1	0	57,1%	Moderate
Yu	[73]	1	1	1	1	NR	NR	NR	1	1	1	1	1	1	1	0	0	1	1	70,3%	Moderate
Nagaya	[74]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	1	1	0	71,4%	Moderate
López-Martínez	[75]	1	1	1	1	0	0	0	1	1	NA	1	1	1	1	1,5	1	1	1	82,9%	Low
Lefevre 2000	[76]	1	1	1	1	0	1	NR	1	NR	0	1	1	1	1	1,5	1	1	1	78,4%	Low
Carnethon	[77]	1	0	1	1	1	1	1	1	1	NA	1	1	1	0	1,5	0	0	1	77,1%	Low
Kim 2012	[78]	1	1	1	1	0	0	0	1	NA	NA	1	1	1	1	1,5	0	0	1	65,7%	Moderate

¹Ref. = Reference number