ELECTRONIC SUPPLEMENTARY MATERIAL (e-components)

Supplemental Table 1: Assessment of methodological quality of studies.

No	Study	Fahrleitner, et al [23]		Fahrleitner-Pammer et al [24]		Melamed et al [11]		Zagura et al [30]		McDermott et al [15]		Liew et al [14]	
	Questions	OS	JP	OS	JP	OS	JP	OS	JP	OS	JP	OS	JP
1	Does the study report clear aims?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2	Is the study reported as a case-control observational study?	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N
3	Is the study setting defined (e.g. hospital based; single/multi-centre)?	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
4	Are the cases and controls recruited/sampled from similar settings?	Y	Y	N	N	N	N	N	N	Y	Y	N	N
5	Is the recruitment of participants conducted in a geographically defined region?	Y	Y	N	N	Y	Y	N	Y	Y	Y[1]	N	Y
6	Are the methods for recruitment /sampling detailed in the study?	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
7	Are inclusion and exclusion criteria detailed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
8	Are controls appropriately matched to the cases (i.e. minimum gender and age)?	Y	Y	Y	Y	N	N	Y	N	Y	Y	N	N
9	Are participants baseline characteristics detailed?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
10	Was the diagnosis of PAD in patients adequately defined (i.e. Positive diagnosis of PAD by one or several of the following: ABPI <0.9; Angiography, physician's examination; other clinical imaging)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
11	Is PAD severity defined in the cases? (i.e. Based on symptoms or the Fontaine classification : PAD stage I to PAD stage IV)	Y	Y	Y	Y	N	N	Y	Y	N	N	N	N
12	Is PAD excluded in the controls? (Controls should be defined based on negative diagnosis of PAD (i.e. By ABPI (>0.9; Angiography, physician's examination; other clinical imaging.)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
13	Was the assessment of vitamin D one of the main study aims?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
14	Does the study report on the total circulating 25(OH)D (i.e. the study did not report one vitamin D metabolite. (i.e. $25(OH)D_2$ and $25(OH)D_3$)?	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
15	Does the study detail the assay method used for assessment of 25(OH)D (e.g. radioimmunoassay (RIA), enzyme-linked immuno-sorbent assay (ELISA), Chemiluminescence immuno-assay (CLIA)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
16	Does the study detail the protocol used for vitamin D measurement (incl. blood collection and blood medium used; e.g. plasma, serum, whole blood)?	Y	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y
17	Did the study control for seasonal variations on circulating 25(OH)D concentration? (i.e. same season or average across seasons)?	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	N
18	Did the study report on the quality of 25(OH)D assay results? (e.g. assay precision, interassay reproducibility)	Y	Y	N	N	Y	Y	N	N	Y	Y	N	N

19	Did the study exclude, match or adjust for cardiovascular diseases (CVD) confounders using one or several of statistical methods (e.g. logistic regression): Age? Gender? Body mass index (BMI)? Hypertension? Smoking status? Diabetes? (List)	N	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y
20	Does the study report findings in relation to the original aims?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
21	Does the study report findings in the context of the existing literature?	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Individual score (Y)		19	19	16	15	16	16	18	18	19	19	14	15
Concentrations of agreement (%)		100		95.2		100		100		100		95.2	
Averaged score (%)		90.5		73.8		76.2		85.7		90.5		69.0	

Quality assessment questions were developed specifically to relate the quality tool to vitamin D and PAD research. The initial quality agreement between assessors (SO and JP) ranged from 90.5% to 95%. After a consensus meeting involving VN, MF, OS and JP, 5 out of 10 questions were revised and the agreement score was altered to within a range of 95.2% to 100%. Studies that scored <50%, 50 to 75% and > 75% in the average score were considered to be of low, moderate, and high quality, respectively. Abbreviations: 25(OH)D: 25-hydroxyvitamin D; ABPI: arterial blood pressure index; JP: Jenna Pinchbeck; MF: Malindu Fernando; N: No; PAD: peripheral arterial diseases; SO: Safraz Omer; VN: Vianne Nsengiyumva; Y: Yes.