

## **Supplementary Materials**

### **Association between environmental cadmium exposure and osteoporosis risk in postmenopausal women: a systematic review and meta-analysis**

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**Table S1.** PubMed search strategy.

Database	Search strategy	Search results
PubMed	((("cadmium"[MeSH Terms] OR "cadmium"[All Fields]) AND ("womans"[All Fields] OR "women"[MeSH Terms] OR "women"[All Fields] OR "woman"[All Fields] OR "women s"[All Fields] OR "womens"[All Fields] OR ("womans"[All Fields] OR "women"[MeSH Terms] OR "women"[All Fields] OR "woman"[All Fields] OR "women s"[All Fields] OR "womens"[All Fields]) OR ("femal"[All Fields] OR "female"[MeSH Terms] OR "female"[All Fields] OR "females"[All Fields] OR "female s"[All Fields] OR "females"[All Fields])) AND ("bone density"[MeSH Terms] OR ("bone"[All Fields] AND "density"[All Fields]) OR "bone density"[All Fields]) AND ("environmental exposure"[All Fields] OR ("environ"[All Fields] OR "environment"[MeSH Terms] OR "environment"[All Fields] OR "environments"[All Fields] OR "environment s"[All Fields] OR "environs"[All Fields])) AND 2008/01/01:2021/12/31[Date - Publication]) NOT (("child"[MeSH Terms] OR "child"[All Fields] OR "children"[All Fields] OR "child s"[All Fields] OR "children s"[All Fields] OR "childrens"[All Fields] OR "childs"[All Fields]) AND ("child"[MeSH Terms] OR "child"[All Fields] OR "children"[All Fields] OR "child s"[All Fields] OR "children s"[All Fields] OR "childrens"[All Fields] OR "childs"[All Fields]) AND ("animals"[MeSH Terms:noexp] OR "animal"[All Fields]))	44

**Table S2.** Individual quality assessment of studies included in the systematic review using the Joanna Briggs Institute (JBI) critical appraisal checklist for cross-sectional studies.

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	%	Risk
Gallagher <i>et al.</i> 2008	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
Engstrom <i>et al.</i> 2009	✓	✓	✓	✓	X	X	✓	✓	75	Low
Horiguchi <i>et al.</i> 2010	✓	✓	✓	✓	X	X	✓	✓	75	Low
Suwazono <i>et al.</i> 2010	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
Chen <i>et al.</i> 2011	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
Engstrom <i>et al.</i> 2011	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
Kim <i>et al.</i> 2014	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
Callan <i>et al.</i> 2015	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
Lv <i>et al.</i> 2017	✓	✓	✓	✓	✓	✓	✓	✓	100	Low
La-Up <i>et al.</i> 2021	✓	✓	✓	✓	✓	✓	✓	✓	100	Low

Q1. Were the criteria for inclusion in the sample clearly defined?; Q2. Were the study subjects and the setting described in detail?; Q3. Was the exposure measured in a valid and reliable way?; Q4. Were objective, standard criteria used for measurement of the condition?; Q5. Were confounding factors identified?; Q6. Were strategies to deal with confounding factors stated?; Q7. Were the outcomes measured in a valid and reliable way?; Q8. Was appropriate statistical analysis used?

‘✓’ indicates yes, and ‘X’ indicates no

**Table S3.** Egger's test of studies investigating the association between UCd levels and risk of osteoporosis in the high-level Cd exposure group.

Egger's Regression-Based Test <sup>a</sup>						
Parameter	Coefficient	Std. Error	t	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper
SE <sup>b</sup>	-4.430	16.3412	-0.271	0.831	-212.065	203.204
Bias	0.001	0.0015	0.692	0.166	-0.019	0.020

<sup>a</sup> Random-effects meta-regression

<sup>b</sup> Standard error of effect size