

Supplementary Material

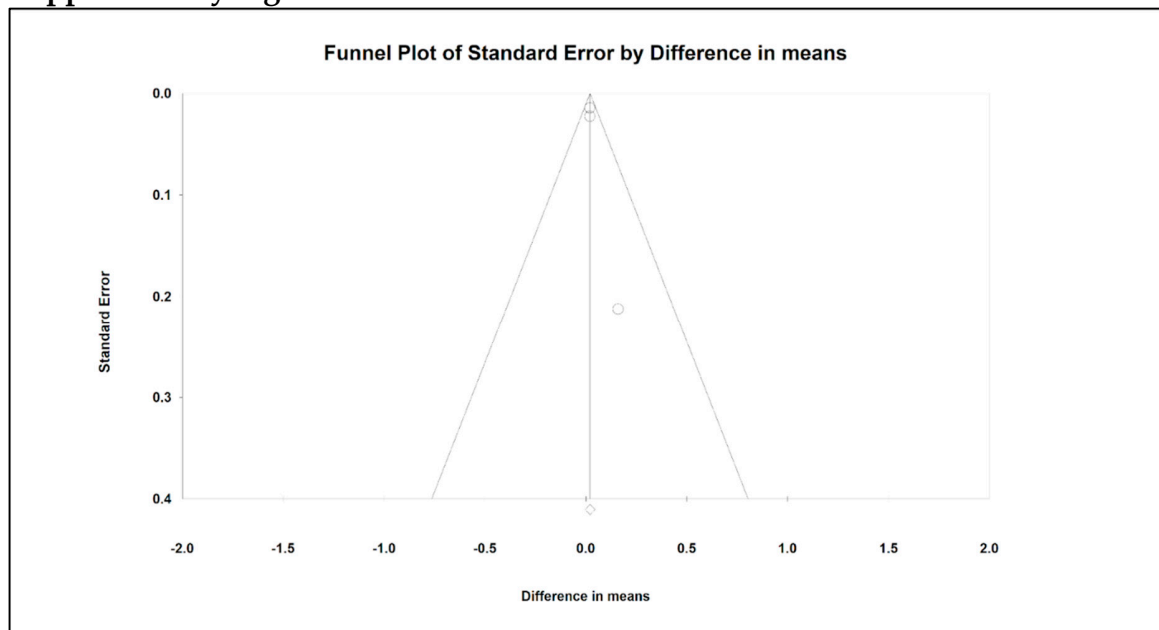
Association of Coffee and Tea Intake with Bone Mineral Density and Hip Fracture: A Meta-analysis

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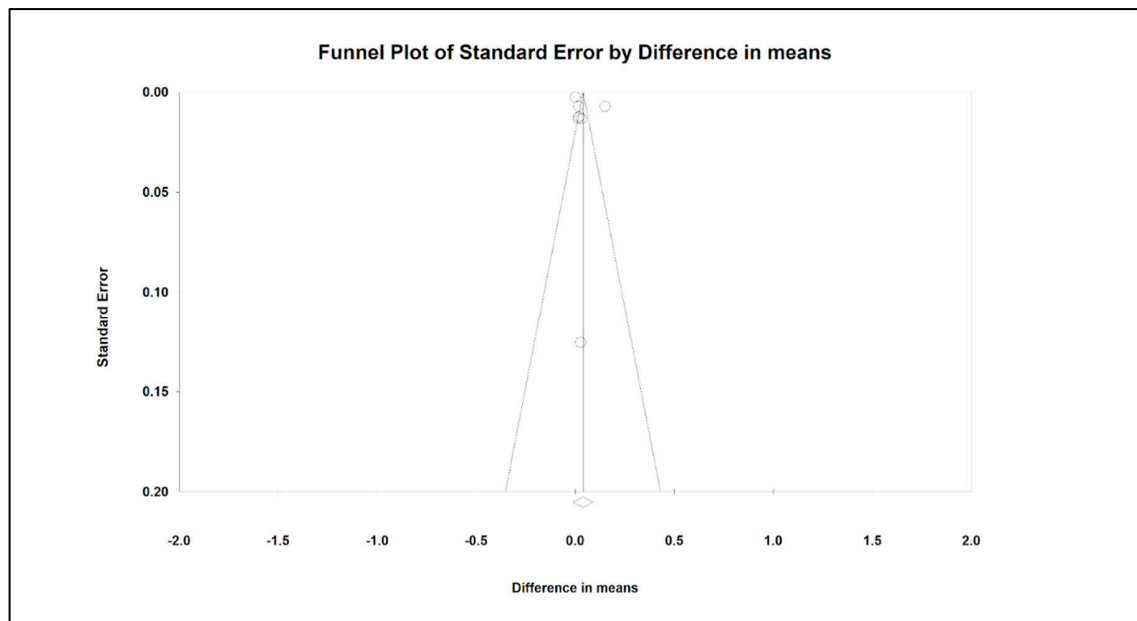
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1 Supplementary Figures and Tables

1.1 Supplementary Figures

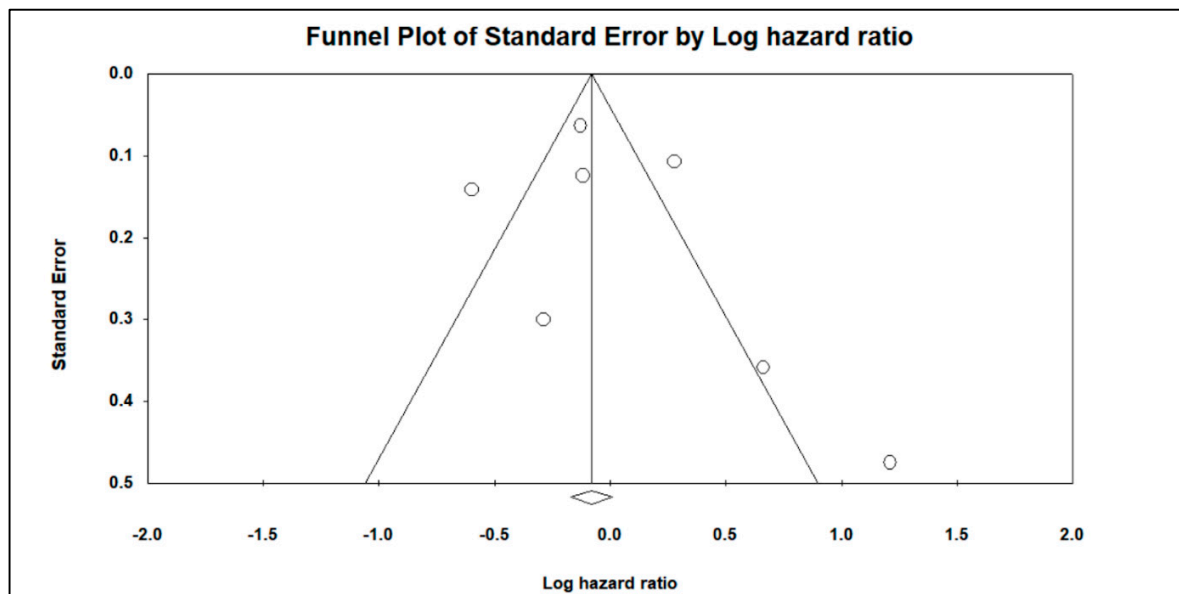


(A)

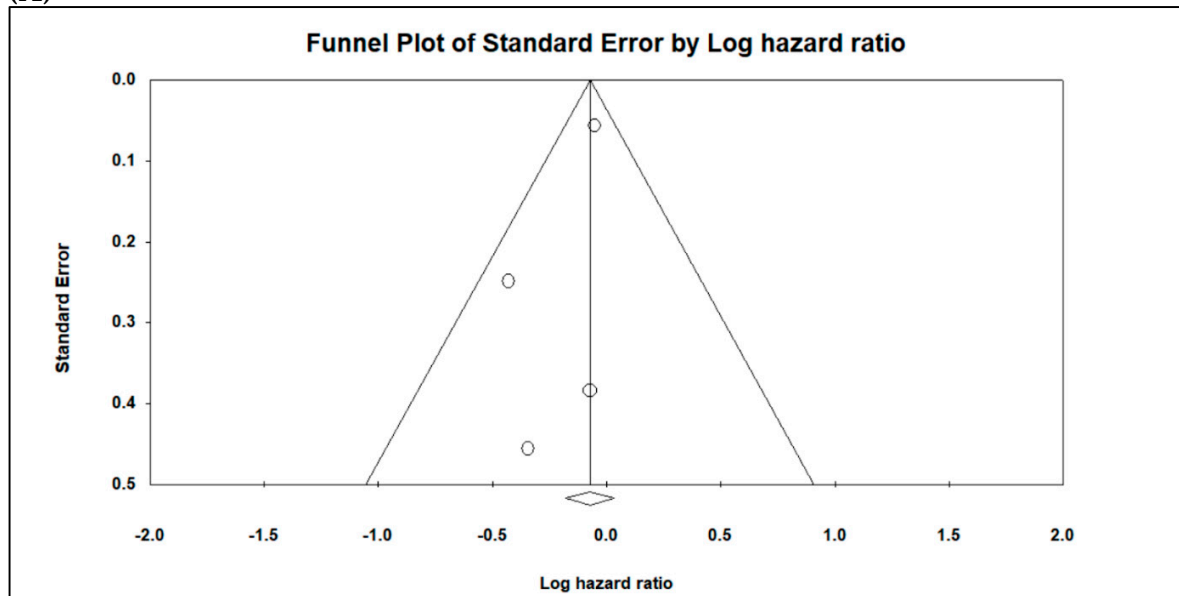


(B)

Figure S1. The funnel plots of the effect of coffee/tea consumption on BMD in the whole body. (A) coffee (B) tea



(A)



(B)

Figure S2. The funnel plots of the effect of coffee/tea consumption on risk of hip fracture.

(A) coffee (B) tea

1.2 Supplementary tables

1.2.1 Table S1a, S1b. MeSH searching text

coffee

Pubmed
((("Bone Density"[Mesh]) OR "Hip Fractures"[Mesh]) AND "Coffee"[Mesh]
((("Bone Density"[Mesh]) OR "Fractures, Bone"[Mesh]) AND "Coffee"[Mesh]
Embase
('bone density'/exp OR 'bone density' OR 'fracture'/exp OR 'fracture') AND ('coffee'/exp OR 'coffee')
('bone density'/exp OR 'bone density' OR 'hip fracture'/exp OR 'hip fracture') AND ('coffee'/exp OR 'coffee')

Tea

Pubmed
((("Bone Density"[Mesh]) OR "Hip Fractures"[Mesh]) AND "tea"[Mesh]
((("Bone Density"[Mesh]) OR "Fractures, Bone"[Mesh]) AND "tea"[Mesh]
Embase
('bone density'/exp OR 'bone density' OR 'fracture'/exp OR 'fracture') AND ('tea'/exp OR 'tea')
('bone density'/exp OR 'bone density' OR 'hip fracture'/exp OR 'hip fracture') AND ('tea'/exp OR 'tea')

1.2.2 Table S2. Standardized data collection form

General Information

Study Characteristics	Review Inclusion Criteria	Yes/ No / Unclear	Location in text (pg & ¶/fig/table)
Type of study	Controlled before-after study		
	Contemporaneous data collection		
	At least 2 intervention and 2 control clusters	...	
	Other design (specify):		
		...	
Participants		...	
Types of intervention		...	
Types of outcome measures		...	
Decision: ...			
Reason for exclusion			
Notes:			

Population and setting

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	Description	Location in text (pg & ¶/fig/table)
Population description		
Setting		
Inclusion criteria		
Exclusion criteria		
Method/s of recruitment of participants		
Notes:		

Methods

	Descriptions as stated in report/paper	Location in text (pg & ¶/fig/table)
Aim of study		
Design		
Unit of allocation		
Start date		
End date		

Duration of participation		
Notes:		

Participants

	Description as stated in report/paper	Location in text (pg & ¶/fig/table)
Total no.		
Baseline imbalances		
Withdrawals and exclusions		
Age		
Sex		
Severity of illness		
Co-morbidities		
Other treatment received		
Other relevant sociodemographics		
Subgroups measured		
Subgroups reported		
Notes:		

Intervention groups

Intervention Group 1

	Description as stated in report/paper	Location in text (pg & ¶/fig/table)
Group name		
No.		
Description		
Duration of treatment period		
Timing		
Delivery		
Providers		
Co-interventions		
Economic variables		
Resource requirements to replicate intervention		
Notes:		

Outcomes

	Description as stated in report/paper		Location in text (pg & ¶/fig/table)
Outcome name			
Time points measured			
Time points reported			
Outcome definition			
Person measuring/ reporting			
Scales: upper and lower limits			
Is outcome/tool validated?	... Yes/No/Unclear		
Imputation of missing data			
Assumed risk estimate			
Notes:			

Results

	Description as stated in report/paper		Location in text (pg & ¶/fig/table)
Comparison			

	Description as stated in report/paper				Location in text (pg & ¶/fig/table)
Outcome					
Subgroup					
Timepoint					
Post-intervention or change from baseline?					
Results	Intervention result	SD (or other variance)	Control result	SD (or other variance)	
	Overall results		SE (or other variance)		
No. participants	Intervention		Control		
No. missing participants and reasons					
No. participants moved from other group and reasons					
Any other results reported					

	Description as stated in report/paper	Location in text (pg & ¶/fig/table)
Unit of analysis		
Statistical methods used and appropriateness of these methods		

Data organization of BMD:

1.2.3 Table S3. BMD Excluded studies and reasons

Reasons for exclusion:	Amount	Reference No.
Only abstract available or cannot gain the full content of study	5	1–5
Insufficient data for analysis	19	6–24
BMD measurement not using DXA	10	25–34
Grouping mismatching criteria(no exact grouping based on different levels of coffee/tea consumption)	2	35,36
Analysis data of dietary consumption only including caffeine (no discrimination between coffee/tea and other caffeinated drinks or other food)	8	37–44
Outcome mismatching criteria(no exact BMD data for different consumption groups)	19	45–63
Only including specific population	1	64

Cutoff point being too inconsistent to be organized within selected studies	3	65–67
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Data organization of fracture:

1.2.4 Table S4. Fracture excluded studies and reasons

Reasons for exclusion:	Amount	Reference No.
Insufficient data for analysis	1	68
Grouping mismatching criteria(no exact grouping based on different levels of coffee/tea consumption)	4	69–72
Analysis data of dietary consumption only including caffeine (no discrimination between coffee/tea and other caffeinated drinks or other food)	2	73,74
Outcome mismatching criteria(results of study without hazard ratio, cannot converted to hazard ratio, or no recording fractures of hip)	16	21,75–89
Cutoff point being too inconsistent to be organized within selected studies	2	90,91

1.2.5 Table S5. Quality assessment of cohort studies using NOS

Article	Representa tiveness of the exposed cohort	Selec tion of the non expo sed coho rt	Ascertai nment of exposur e	Demons tration that outcome of interest was not present at start of study	Compar ability of cohorts on the basis of the design or analysis	Assess ment of outco me	Was follo w-up long enou gh for outco mes to occur	Adeq uacy of follo w up of cohor ts	To tal sc or e
Hallström, H. 2010	*	*	NO	NO	**	*	*	NO	6
Huang , H.2018	*	*	*	*	**	*	*	NO	8
Chen, Z. 2003	*	*	NO	*	**	*	*	*	8
Dai, Z.2018	*	*	NO	*	**	*	*	*	8
Hallström, H.2014	*	*	*	*	**	*	*	*	9
Hallström, H.2013	*	*	NO	NO	**	*	*	*	7

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van - Lenthe , F. J. 2011	*	*	NO	*	*	*	*	NO	6
Trimp ou, P. 2010	*	*	NO	*	**	*	*	NO	7
Meyer, H. E. 1997	*	*	NO	*	*	*	*	*	7
Herna ndez- Avila, M. 1991	NO	*	NO	*	**	*	*	*	7
Myers, G. 2015	*	*	NO	*	**	*	*	*	8

1.2.6 Table S6. Quality assessment of cross-sectional studies using JBI

Article	1	2	3	4	5	6	7	8	Total score
Ye, Y. 2021	YES	YES	NO	YES	NO	NO	YES	YES	5
Lloyd, T. 1997	YES	YES	NO	YES	YES	YES	YES	YES	7
Ni, S. 2021	YES	YES	YES	YES	YES	YES	YES	YES	8
Li, J.-Y.2021	YES	YES	YES	YES	YES	YES	YES	YES	8
Wang, G. 2014	YES	YES	NO	YES	YES	YES	YES	YES	7
Devine, A. 2007	YES	YES	NO	YES	YES	YES	YES	YES	7
Hegarty, V. M. 2000	YES	YES	NO	YES	YES	YES	YES	YES	7

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