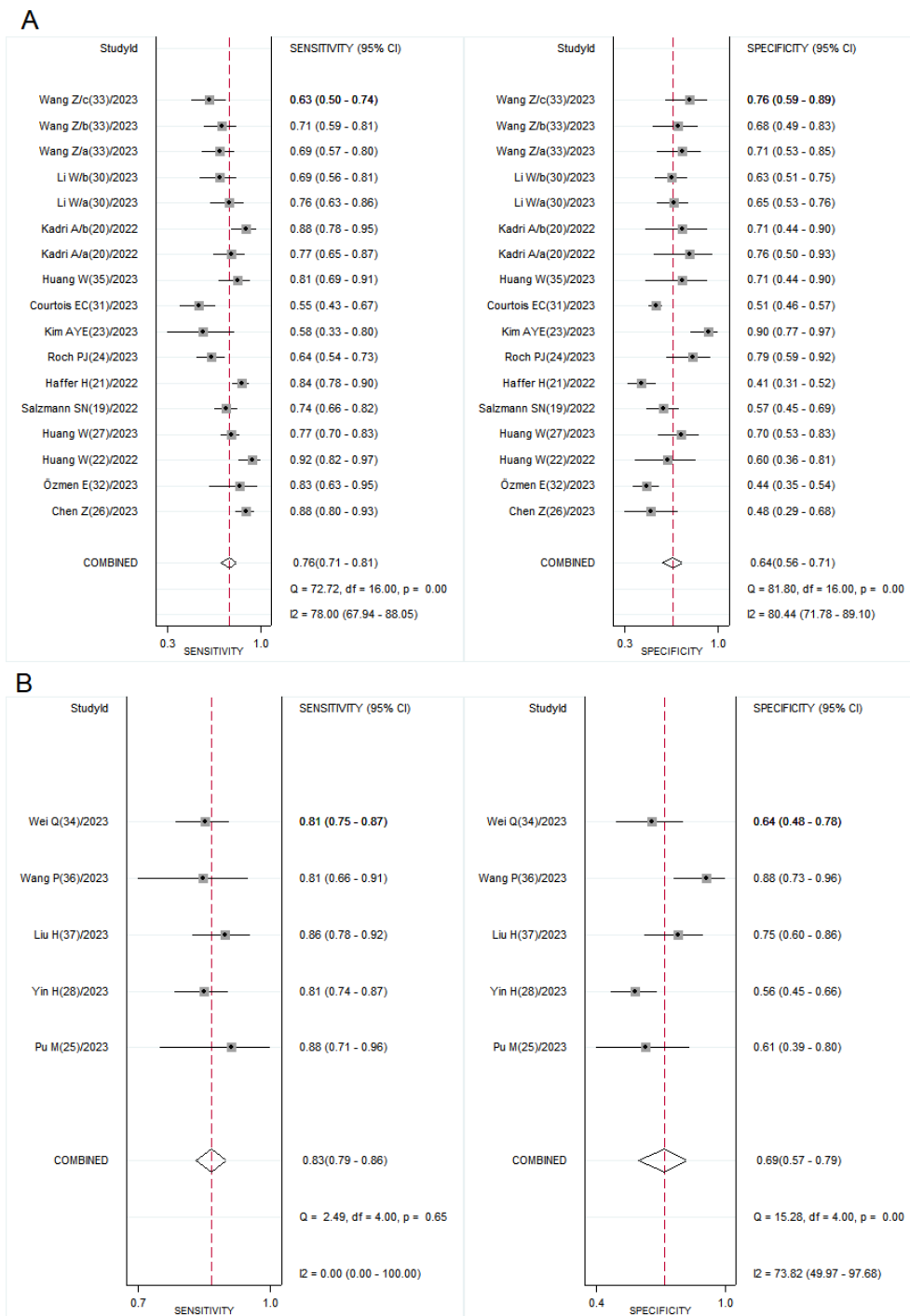


Table S1 Search strategy

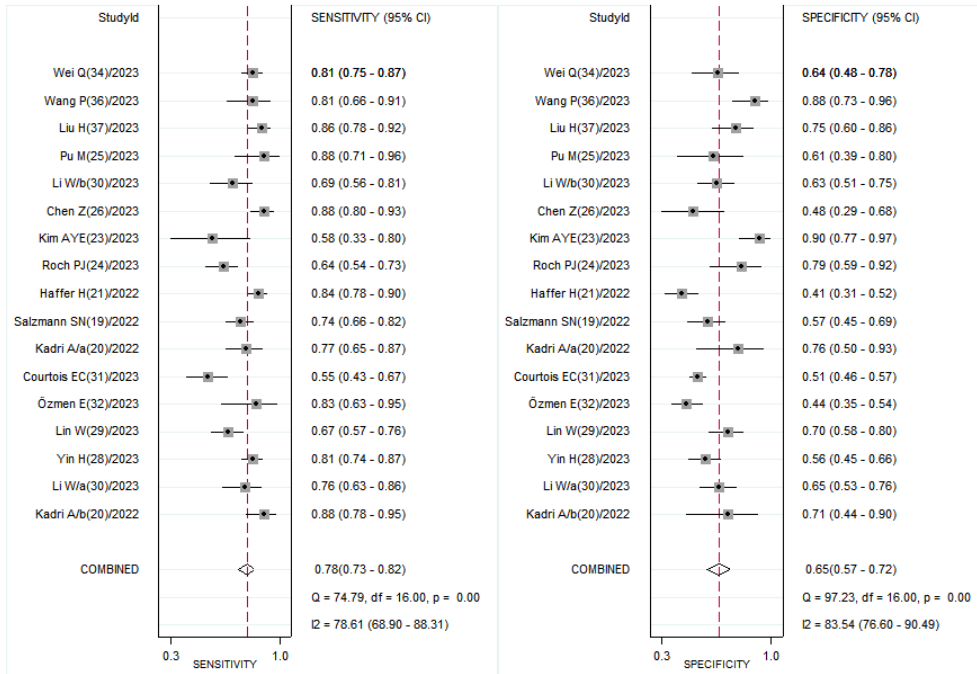
Database name and code number of keywords	Keywords	Result
PubMed		
#1	“Osteoporosis”[Mesh] OR “Osteoporosis”[tiab] OR “Bone Loss”[tiab] OR “osteopenia”[tiab] OR “BMD”[tw] OR “bone mineral density”[tiab]	285,917
#2	“magnetic resonance imaging”[tiab] OR “MRI”[tiab] OR “MR”[tiab]	972,490
#3	“VBQ”[tiab] OR “vertebral bone quality”[tiab]	20,324
#4	#1 AND #2 AND #3	273
Embase		
#1	“Osteoporosis”[tiab] OR “Bone Loss”[tiab] OR “osteopenia”[tiab] OR “BMD”[tw] OR “bone mineral density”[tiab]	477,538
#2	“magnetic resonance imaging”[tiab] OR “MRI”[tiab] OR “MR”[tiab]	1,932,255
#3	“VBQ”[tiab] OR “vertebral bone quality”[tiab]	7,060
#4	#1 AND #2 AND #3	64
Ovid		
#1	“Osteoporosis”[tiab] OR “Bone Loss”[tiab] OR “osteopenia”[tiab] OR “BMD”[tw] OR “bone mineral density”[tiab]	9,309
#2	“magnetic resonance imaging”[tiab] OR “MRI”[tiab] OR “MR”[tiab]	10,530
#3	“VBQ”[tiab] OR “vertebral bone quality”[tiab]	198
#4	#1 AND #2 AND #3	165
Web of Science		
#1	“Osteoporosis”[tp] OR “Bone Loss”[tp] OR “osteopenia”[tp] OR “BMD”[tp] OR “bone mineral density”[tp]	408,135
#2	“magnetic resonance imaging”[tp] OR “MRI”[tp] OR “MR”[tp]	1,241,372
#3	“VBQ”[tp] OR “vertebral bone quality”[tp]	5,156
#4	#1 AND #2 AND #3	238
Cochrane Library		
#1	‘Osteoporosis’:ti,ab,kw OR ‘Bone Loss’:ti,ab,kw OR ‘osteopenia’:ti,ab,kw OR ‘BMD’:ti,ab,kw OR ‘bone mineral density’:ti,ab,kw	25,541
#2	‘magnetic resonance imaging’:ti,ab,kw OR ‘MRI’:ti,ab,kw OR ‘MR’:ti,ab,kw	52,434
#3	‘VBQ’:ti,ab,kw OR ‘vertebral bone quality’:ti,ab,kw	452
#4	#1 AND #2 AND #3	44
Wanfang		
#1	((主题 = (VBQ or 椎体骨质量)) AND 主题 = (磁共振成像 or MRI)) AND 主题 = 骨密度	13
China National Knowledge Infrastructure (CNKI)		
#1	主题 (VBQ or 椎体骨质量)	22
Chinese Science and Technology Periodicals database (VIP)		
	主题 (VBQ or 椎体骨质量)	22

BMD, bone mineral density; MRI, magnetic resonance imaging; VBQ, vertebral bone quality.

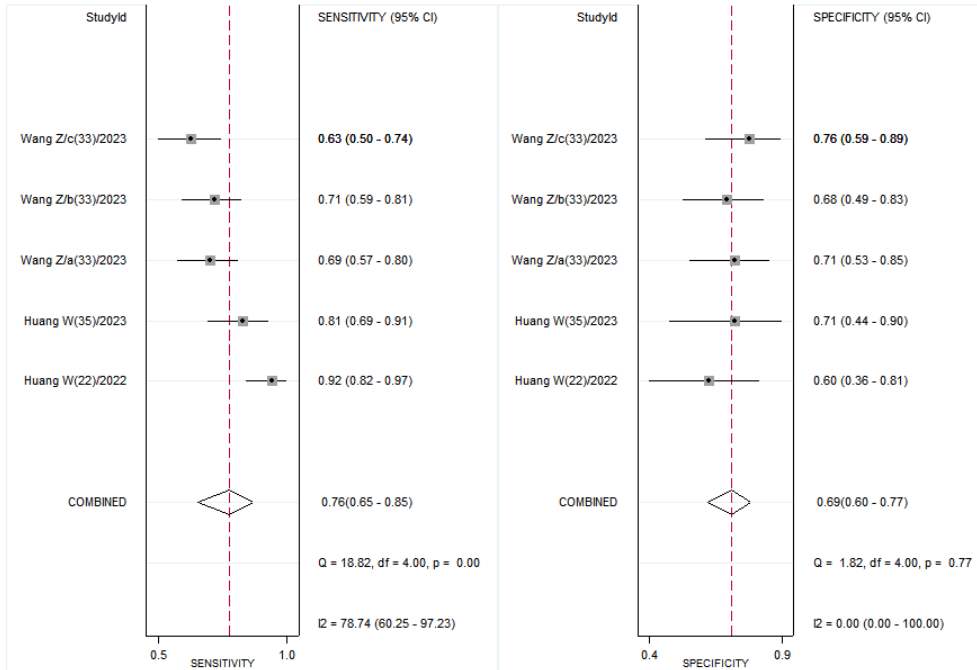


**Figure S1** Forest plots of the sensitivity (left) and specificity (right) of the subgroup analysis of the VBQ score based on different magnet field strength for assessing BMD. (A) Unclear about magnet field strength; (B) 1.5-T magnet field strength. Each solid square represents an individual study. Error bars represent 95% CIs. CI, confidence interval; VBQ, bone quality score; BMD, bone mineral density.

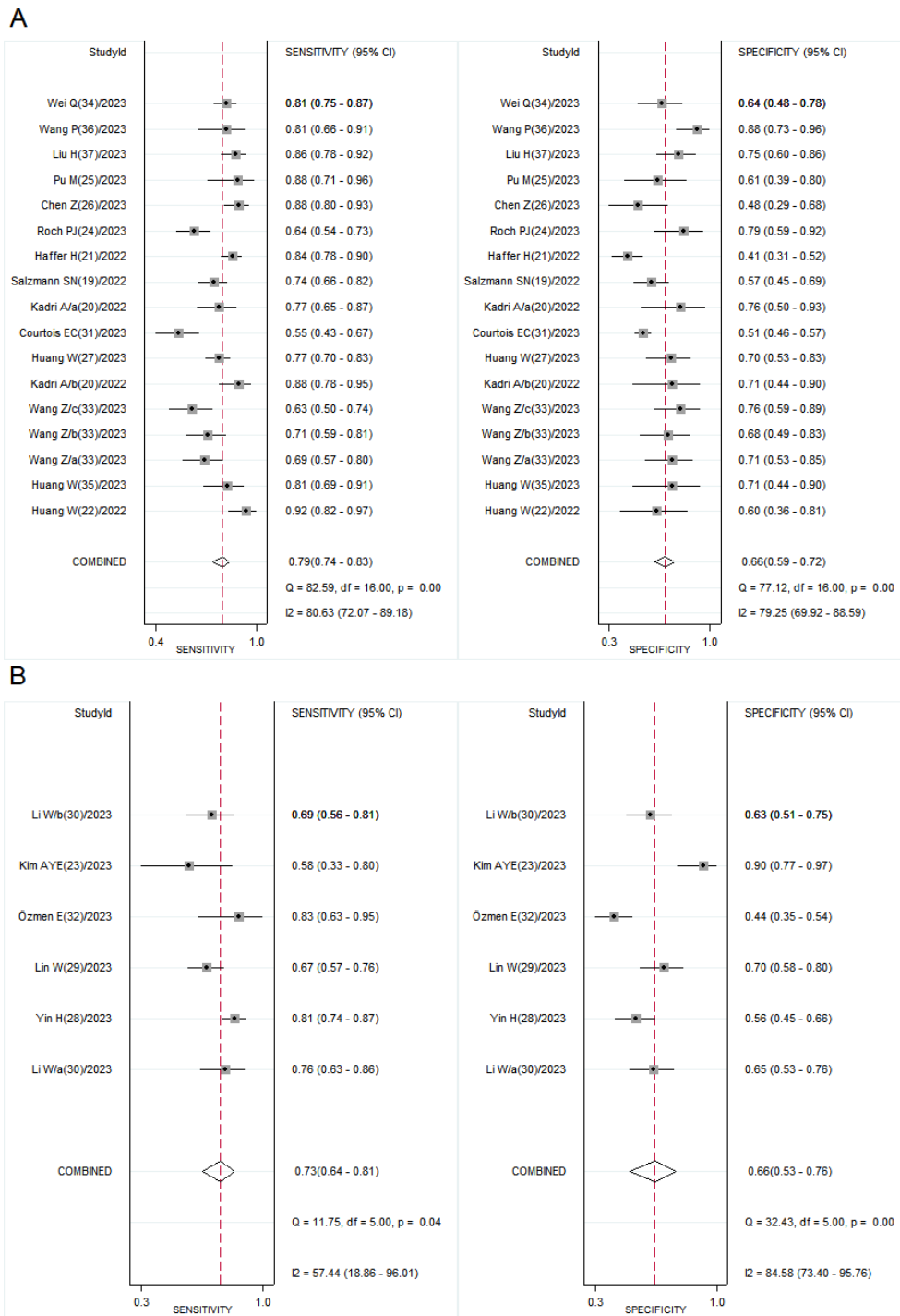
A



B



**Figure S2** Forest plots of the sensitivity (left) and specificity (right) of the subgroup analysis between the lumbar VBQ (A) and cervical VBQ (B) for assessing BMD. Each solid square represents an individual study. Error bars represent 95% CIs. CI, confidence interval; VBQ, bone quality score; BMD, bone mineral density.



**Figure S3** Forest plots of the sensitivity (left) and specificity (right) of the subgroup analysis of the MRI-VBQ score for assessing different BMD conditions [distinguishing normal from osteopenia/osteoporosis (A) vs. distinguishing osteoporosis from non-osteoporosis (B)]. Each solid square represents an individual study. Error bars represent 95% CIs. CI, confidence interval; VBQ, bone quality score; BMD, bone mineral density.