

Supplemental Material for "Effect of Phosphate-specific Diet Therapy on Phosphate Levels in Adults Undergoing Maintenance Hemodialysis"

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Supplement 1. Adapted PRISMA Checklist for Systematic Reviews

CJASN
Clinical Journal of American Society of Nephrology

JASN
Journal of the American Society of Nephrology

Manuscript ID:

Adapted* PRISMA Checklist for Systematic Reviews

Section/Topic	Checklist Item	Response
Background	An explicit statement of questions being addressed with reference to participants, interventions, comparisons, outcomes, and study designs (PICOS).	Yes <input type="checkbox"/>
METHODS		
Protocol and Registration	Indicates if a review protocol exists and if and when it can be accessed.	Yes <input type="checkbox"/>
	Indicates if the protocol has been registered, and if so, provides registration number.	Yes <input type="checkbox"/>
Eligibility Criteria	Specifies study characteristics (e.g., PICOS, length of follow-up) and reports characteristics (e.g. years considered, language, publication status used as criteria for eligibility).	Yes <input type="checkbox"/>
Information Sources	Describes all information sources (e.g. database with dates of coverage, contact with study authors to identify additional studies) in the search and the date last searched.	Yes <input type="checkbox"/>
Search	Presents full electronic search strategy for at least one database, including any limits used, such that it could be repeated.	Yes <input type="checkbox"/>
Study Selection	States the process for selecting studies (e.g. screening, eligibility, included in systematic review and/or inclusion in meta-analyses).	Yes <input type="checkbox"/>
Data Collection Process	Describes the method of data extraction from reports (e.g., piloted forms, independently, in duplicate) and any processes for obtaining and confirming data from investigators.	Yes <input type="checkbox"/>
Data Items	Lists and defines all variables for which data were sought (e.g., PICOS, funding sources) and any assumptions and simplifications made.	Yes <input type="checkbox"/>
Risk of Bias in Individual Studies	Describes methods used for assessing risk of bias of individual studies (including specification of whether this was done at the study or outcome level), and this information was used in any data synthesis.	Yes <input type="checkbox"/>
Summary Measures	States the principal summary measures (e.g., risk ratios, difference in means).	Yes <input type="checkbox"/>
Synthesis of Results	Describes the methods of handling data and combining results of studies, if done, including measures of consistency (I^2) for each meta-analysis.	Yes <input type="checkbox"/>
RESULTS		
Study Selection	The numbers of studies screened, assessed for eligibility, and included in the review, with reasons for exclusion at each stage	Yes <input type="checkbox"/>
Study Characteristics	Characteristics for which data were extracted from each study (e.g., study size, PICOS, follow-up period).	Yes <input type="checkbox"/>
Risk of Bias Across Studies	Presents results of any assessment of risk of bias across studies.	Yes <input type="checkbox"/>
Additional Analyses	Gives results of secondary analyses (e.g., sensitivity or sub-group analyses, meta-regression).	Yes <input type="checkbox"/>

Supplement 2. Databases Search to Identify Articles Addressing the PICO Question: In Individuals with CKD, what is the Effect of Medical Nutrition Therapy provided by a Registered Dietitian Nutritionist or international equivalent on Nutrition Outcomes?

Chronic Kidney Disease
FINAL database searches
2019-11-23

Summary

Database	Hits
MEDLINE (Ovid)	1085
Embase (Ovid)	4457
CINAHL (Ebsco)	377
Web of Science	782
Cochrane Central Register of Controlled Trials (Ovid)	1203
Cochrane Database of Systematic Reviews (Ovid)	88
Health Technology Assessment Database (Ovid)	4
Database of Abstracts of Reviews of Effects (DARE) (Ovid)	58
Total Downloaded Citations	8054
Duplicates Removed	2352
Total to screen at title/abstract stage	5702

Notes:

Chronic Kidney Disease filter comes from: Iansavichus et al, 2015. Narrow version used with modifications (terms added for kidney transplants and "NOT allograft" concept removed).

Iansavichus AV, Hildebrand AM, Haynes RB, Wilczynski NL, Levin A, Hemmelgarn BR, Tu K, Nesrallah GE, Nash DM, Garg AX. High-performance information search filters for CKD content in PubMed, Ovid MEDLINE, and EMBASE. American Journal of Kidney Diseases. 2015 Jan 1;65(1):26-32.

Study design search filters:

- RCT/ Non-RCT: Designed by Becky Skidmore and colleagues at CADTH.
- Systematic reviews: Designed by information specialist team at CADTH and freely available online from: <https://www.cadth.ca/resources/finding-evidence/strings-attached-cadths-database-search-filters#syst> (used with modifications)

Search filters should be acknowledged in all publications.

MEDLINE/ Embase/ Cochrane CENTRAL/ Cochrane Database of Systematic Reviews/ Health Technology Assessment database/ DARE

- [Support & Training- opens in a new window](#)

- [Feedback- opens in a new window](#)
- Logged in as Amanda Wanner
- [Close](#)

Database(s): EBM Reviews - Cochrane Central Register of Controlled Trials October 2019, EBM Reviews - Cochrane Database of Systematic Reviews 2005 to November 20, 2019, EBM Reviews - Database of Abstracts of Reviews of Effects 1st Quarter 2016, EBM Reviews - Health Technology Assessment 4th Quarter 2016, Embase 1974 to 2019 November 22, Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations and Daily 1946 to November 22, 2019

Search Strategy:

#	Searches	Results
1	exp *Renal Insufficiency, Chronic/	125824
2	((chronic or diabetic or advanced) adj kidney).tw.	133703
3	((end stage or endstage) adj (kidney or renal)).ti.	22035
4	((h?emodialysis or dialysis or ur?emic) adj patient\$).mp.	107510
5	((kidney or renal) adj (disease or insufficiency)).ti.	115372
6	(h?emodia\$ or dialys\$).ti. or ckd.tw.	268371
7	((chronic or progressive) adj (kidney or renal or ur?emi\$)).ti.	83606
8	*Diabetic Nephropathies/	27492
9	exp Peritoneal Dialysis/	66728
10	(nephrosclerosis or glomerulosclerosis or glomerular sclerosis).ti.	7157
11	macroalbuminuri\$.tw.	4741
12	*Renal Osteodystrophy/	5140
13	((kidney or renal or interstitial) adj fibrosis).ti.	5788
14	calciphylaxis.tw.	2771
15	Denys-Drash Syndrome/	559
16	renal hyperparathyroidism.tw.	695
17	polycystic kidney\$.ti.	11164
18	((kidney or renal) and (ckf or crd or crf or eskd or eskf or esrd or esrf)).mp.	59217
19	((chronic\$ or severe or catheter\$ or pd or capd or hd) and (dialy\$ or h?emodialy\$ or renal replacement or azot?emia)).mp.	261954
20	(exp *Kidney Diseases/ or ((kidney or renal) adj disease).mp. or dialy\$.mp. or ur?emi\$.mp.) and (calcification.tw. or hyperparathyroidism.mp. or (left ventricul\$ adj2 hypertroph\$).mp. or hypercalc?emia.mp.)	44115
21	(Disease Progression/ or Chronic Disease/ or ((kidney or renal) adj function).ti. or proteinuri\$.ti.) and (*Kidney Diseases/ or *Renal Insufficiency/ or *Renal Artery Obstruction/)	12710
22	(diabet\$.ti. or Disease Progression/) and (nephropath\$ or m?croalbuminuri\$ or albuminuri\$.ti.	31636

23	*Kidney Transplantation/	152819
24	((kidney transplant* or renal transplant*) and (recipients or candidates or wait list or waiting list*)).tw.	86587
25	or/1-24 [CKD]	773817
26	dietetics/ or nutritionists/	24315
27	nutrition therapy/ or exp diet/ or exp diet therapy/ or nutrition assessment/ or nutritional requirements/ or feeding behavior/	1045856
28	(dietetic* or dietitian* or dietician* or nutritionist* or dieteticien* or dietisten* or nutricionista*).tw,kf.	46960
29	(medically-tailored adj3 nutrition*).tw,kf.	1
30	((diet* or nutrition*) adj3 (counsel* or advice or consultation* or intervention or behavio* or program* or service* or assessment* or therap* or individuali?ed or personali?ed or habit* or recommendation* or change* or improve* or education* or support* or self-manage* or management or prescription*)).tw,kf.	327657
31	((low or restrict* or reduc* or free) adj2 protein adj2 diet*).tw,kf.	16063
32	((low or restrict* or reduc* or free) adj2 (sodium or salt) adj2 diet*).tw,kf.	11643
33	or/26-32 [NUTRITION]	1254014
34	25 and 33	29802
35	(controlled clinical trial or randomized controlled trial or equivalence trial or pragmatic clinical trial).pt.	1208339
36	clinical trials as topic.sh.	227556
37	Randomized Controlled Trials as Topic/	241538
38	(randomi#ed or randomi#ation? or randomly or RCT or placebo*).tw,kf.	3295664
39	((singl* or doubl* or trebl* or tripl*) adj (mask* or blind* or dumm*)).tw,kf.	682824
40	trial.ti.	800394
41	or/35-40 [RCTs]	4099668
42	controlled clinical trial.pt.	197223
43	exp Clinical Trial/ or Controlled Clinical Trials as Topic/	2304894
44	(control* adj2 trial*).tw,kf.	893920
45	Non-Randomized Controlled Trials as Topic/	11045
46	(nonrandom* or non-random* or quasi-random* or quasi-experiment*).tw,kf.	143201
47	(nRCT or nRCTs or non-RCT?).tw,kf.	2899
48	Controlled Before-After Studies/	195842
49	(control* adj3 ("before and after" or "before after")).tw,kf.	733975
50	Interrupted Time Series Analysis/	188305
51	time series.tw,kf.	63442
52	(pre- adj3 post-).tw,kf.	245629

53	(pretest adj3 posttest).tw,kf.	13922
54	Historically Controlled Study/	206374
55	(control* adj2 stud\$3).tw,kf.	648803
56	Control Groups/	112191
57	(control* adj2 group\$1).tw,kf.	1391037
58	trial.ti.	800394
59	or/42-58 [NON-RCTs]	5406408
60	systematic review.pt.	124841
61	exp systematic reviews as topic/	27040
62	meta analysis.pt.	108129
63	exp meta-analysis as topic/	59759
64	(meta-analy* or metanaly* or metaanaly* or met analy* or integrative research or integrative review* or integrative overview* or research integration or research overview* or collaborative review*).tw,kf.	425002
65	(systematic review* or systematic overview* or evidence-based review* or evidence-based overview* or (evidence adj3 (review* or overview*)) or meta-review* or meta-overview* or meta-synthes* or rapid review* or "review of reviews" or umbrella review? or technology assessment* or HTA or HTAs).tw,kf.	525378
66	exp Technology assessment, biomedical/	25159
67	(cochrane or health technology assessment or evidence report or systematic reviews).jw.	57976
68	(network adj (meta-analy* or metanaly* or metaanaly* or met analy*)).tw,kf.	10262
69	(network adj (MA or MAs)).tw,kf.	27
70	(NMA or NMAs or MTC or MTCs or MAIC or MAICs).tw,kf.	17631
71	indirect* compar*.tw,kf.	6538
72	(indirect treatment* adj1 compar*).tw,kf.	921
73	(mixed treatment* adj1 compar*).tw,kf.	1542
74	(multiple treatment* adj1 compar*).tw,kf.	432
75	simultaneous* compar*.tw,kf.	2378
76	mixed comparison?.tw,kf.	128
77	or/60-76 [SRs/NMAs/MAs]	883133
78	34 and (41 or 59 or 77)	8377
79	exp Animals/ not (exp Animals/ and Humans/)	17003466
80	78 not 79 [ANIMAL-ONLY REMOVED]	5616
81	exp Child/ not (exp Adult/ or Adolescent/)	2345108
82	exp Infant/ not (exp Adult/ or Adolescent/)	1395373

83	80 not (81 or 82) [CHILD- AND INFANT-ONLY REMOVED]	5537
84	(comment or editorial or news or newspaper article).pt.	2006783
85	83 not 84 [OPINION PIECES REMOVED]	5493
86	85 and English.lg.	4898
87	limit 86 to yr="2000 -Current" [Limit not valid in DARE; records were retained]	3850
88	87 use ppez	1085
89	(h?emodia\$ or dialy\$).ti.	200192
90	chronic kidney disease.mp.	143927
91	((h?emodialysis or dialysis or ur?emic) adj patient\$).tw.	100850
92	*hemodialysis/	110074
93	((chronic or diabetic or advanced) adj kidney).tw.	133703
94	((kidney or renal) adj (disease or insufficiency)).ti. or ckd.mp.	157146
95	((chronic or progressive) adj (kidney or renal or ur?emi\$)).ti.	83606
96	hemodialysis patient/	26902
97	*peritoneal dialysis/	30120
98	*diabetic nephropathy/	36989
99	((end stage or endstage) adj (kidney or renal)).ti.	22035
100	*chronic kidney failure/	106581
101	*hemodialysis patient/	12122
102	(nephrosclerosis or glomerulosclerosis or glomerular sclerosis).ti.	7157
103	macroalbuminuri\$.tw.	4741
104	uremic toxin/	1647
105	((kidney or renal or interstitial) adj fibrosis).ti.	5788
106	calciphylaxis.tw.	2771
107	*denys drash syndrome/	211
108	renal hyperparathyroidism.tw.	695
109	((kidney or renal) and (ckf or crd or crf or eskd or eskf or esrd or esrf)).mp.	59217
110	(h?emodialy\$ or dialy\$).mp. and (*kidney failure/ or proteinuri\$.tw. or ur?emi\$.tw. or diabetic nephropathy.tw. or (pd or capd or hd).mp.)	119822
111	(blood vessel calcification/ or *secondary hyperparathyroidism/ or secondary hyperparathyroidism.tw.) and "Urology and nephrology".ec.	5108
112	(diabet\$ and (nephropath\$ or renal or m?croalbuminuri\$ or albuminuri\$)).ti.	45602
113	(((kidney or renal) adj fibrosis) or glomerulosclerosis or ventricl\$ hypertrophy).mp. or *kidney dysfunction/) and ((chronic adj (kidney or renal)) or ((end-stage or endstage) adj (kidney or renal))).mp.	17723
114	exp *kidney transplantation/	177583

115	((kidney transplant* or renal transplant*) and (recipients or candidates or wait list or waiting list*)).tw.	86587
116	or/89-115 [CKD]	752235
117	dietetics/ or dietitian/	24315
118	exp diet/ or exp diet therapy/ or nutrition education/ or nutritional counseling/ or nutritional requirement/ or feeding behavior/	1025046
119	(dietetic* or dietitian* or dietician* or nutritionist* or dieteticien* or dietisten* or nutricionista*).tw,kw.	45834
120	(medically-tailored adj3 nutrition*).tw,kw.	2
121	((diet* or nutrition*) adj3 (counsel* or advice or consultation* or intervention or behavio* or program* or service* or assessment* or therap* or individuali?ed or personali?ed or habit* or recommendation* or change* or improve* or education* or support* or self-manage* or management or prescription*)).tw,kw.	333145
122	((low or restrict* or reduc* or free) adj2 protein adj2 diet*).tw,kw.	16135
123	((low or restrict* or reduc* or free) adj2 (sodium or salt) adj2 diet*).tw,kw.	11494
124	or/117-123 [NUTRITION]	1246962
125	116 and 124	29144
126	randomized controlled trial/	1076436
127	controlled clinical trial/	556468
128	"clinical trial (topic)"/	106230
129	Randomized Controlled Trials as Topic/	241538
130	(randomi#ed or randomi#ation? or randomly or RCT or placebo*).tw,kw.	3350747
131	((singl* or doubl* or trebl* or tripl*) adj (mask* or blind* or dumm*)).tw,kw.	707651
132	trial.ti.	800394
133	or/126-132 [RCTs]	4174258
134	exp clinical trial/	2290895
135	exp "clinical trial (topic)"/	311877
136	(control* adj2 trial*).tw,kw.	1171336
137	(nonrandom* or non-random* or quasi-random* or quasi-experiment*).tw,kw.	143526
138	(nRCT or nRCTs or non-RCT\$1).tw,kw.	2899
139	(control* adj3 ("before and after" or "before after")).tw,kw.	733980
140	time series analysis/	24431
141	time series.tw,kw.	64365
142	pretest posttest control group design/	429
143	(pre- adj3 post-).tw,kw.	245669
144	(pretest adj3 posttest).tw,kw.	14693

145	controlled study/	7055486
146	(control* adj2 stud\$3).tw,kw.	982134
147	control group/	112089
148	(control* adj2 group\$1).tw,kw.	1391252
149	trial.ti.	800394
150	or/134-149 [NON-RCTs]	11258295
151	systematic review/	342917
152	"systematic review (topic)"/	24242
153	meta analysis/	283792
154	"meta analysis (topic)"/	40970
155	(meta-analy* or metanaly* or metaanaly* or met analy* or integrative research or integrative review* or integrative overview* or research integration or research overview* or collaborative review*).tw,kw.	433346
156	(systematic review* or systematic overview* or evidence-based review* or evidence-based overview* or (evidence adj3 (review* or overview*)) or meta- review* or meta-overview* or meta-synthes* or rapid review* or "review of reviews" or umbrella review? or technology assessment* or HTA or HTAs).tw,kw.	532935
157	biomedical technology assessment/	24041
158	(cochrane or health technology assessment or evidence report or systematic reviews).jw.	57976
159	network meta-analysis/	3448
160	(network adj (meta-analy* or metanaly* or metaanaly* or met analy*)).tw,kw.	10288
161	(network adj (MA or MAs)).tw,kw.	27
162	(NMA or NMAs or MTC or MTCs or MAIC or MAICs).tw,kw.	17684
163	indirect* compar*.tw,kw.	6614
164	(indirect treatment* adj1 compar*).tw,kw.	926
165	(mixed treatment* adj1 compar*).tw,kw.	1564
166	(multiple treatment* adj1 compar*).tw,kw.	438
167	(multi-treatment* adj1 compar*).tw,kw.	9
168	simultaneous* compar*.tw,kw.	2378
169	mixed comparison?.tw,kw.	129
170	or/151-169 [SRs/NMAs/MAs]	959516
171	125 and (133 or 150 or 170)	11273
172	exp animal experimentation/ or exp animal model/ or exp animal experiment/ or nonhuman/ or exp vertebrate/	48990537
173	exp human/ or exp human experimentation/ or exp human experiment/	39053486
174	171 not (172 not 173) [ANIMAL-ONLY REMOVED]	9913

175	exp adolescent/ not (exp adult/ and exp adolescent/)	1158882
176	exp child/ not (exp adult/ and exp child/)	3070462
177	fetus/ not (exp adult/ and fetus/)	222118
178	174 not (175 or 176 or 177) [UNDER 18 REMOVED]	9609
179	editorial.pt.	1145557
180	178 not 179 [OPINION PIECES REMOVED]	9519
181	conference abstract.pt.	3649665
182	180 not 181 [CONFERENCE ABSTRACTS REMOVED]	8050
183	182 and English.lg.	7357
184	limit 183 to yr="2000 -Current" [Limit not valid in DARE; records were retained]	6269
185	184 use oomezd [EMBASE]	4457
186	exp *Renal Insufficiency, Chronic/	125824
187	((chronic or diabetic or advanced) adj kidney).tw.	133703
188	((end stage or endstage) adj (kidney or renal)).ti.	22035
189	((h?emodialysis or dialysis or ur?emic) adj patient\$).mp.	107510
190	((kidney or renal) adj (disease or insufficiency)).ti.	115372
191	(h?emodia\$ or dialys\$).ti. or ckd.tw.	268371
192	((chronic or progressive) adj (kidney or renal or ur?emi\$)).ti.	83606
193	*Diabetic Nephropathies/	27492
194	exp Peritoneal Dialysis/	66728
195	(nephrosclerosis or glomerulosclerosis or glomerular sclerosis).ti.	7157
196	macroalbuminuri\$.tw.	4741
197	*Renal Osteodystrophy/	5140
198	((kidney or renal or interstitial) adj fibrosis).ti.	5788
199	calciphylaxis.tw.	2771
200	Denys-Drash Syndrome/	559
201	renal hyperparathyroidism.tw.	695
202	polycystic kidney\$.ti.	11164
203	((kidney or renal) and (ckf or crd or crf or eskd or eskf or esrd or esrf)).mp.	59217
204	((chronic\$ or severe or catheter\$ or pd or capd or hd) and (dialy\$ or h?emodialy\$ or renal replacement or azot?emia)).mp.	261954
205	(exp *Kidney Diseases/ or ((kidney or renal) adj disease).mp. or dialy\$.mp. or ur?emi\$.mp.) and (calcification.tw. or hyperparathyroidism.mp. or (left ventricul\$ adj2 hypertroph\$).mp. or hypercalc?emia.mp.)	44115

206	(Disease Progression/ or Chronic Disease/ or ((kidney or renal) adj function).ti. or proteinuri\$.ti.) and (*Kidney Diseases/ or *Renal Insufficiency/ or *Renal Artery Obstruction/	12710
207	(diabet\$.ti. or Disease Progression/) and (nephropath\$ or m?croalbuminuri\$ or albuminuri\$.ti.	31636
208	*Kidney Transplantation/	152819
209	((kidney transplant* or renal transplant*) and (recipients or candidates or wait list or waiting list*)).tw.	86587
210	or/186-209 [CKD]	773817
211	dietetics/ or nutritionists/	24315
212	nutrition therapy/ or exp diet/ or exp diet therapy/ or nutrition assessment/ or nutritional requirements/ or feeding behavior/	1045856
213	(dietetic* or dietitian* or dietician* or nutritionist* or dieteticien* or dietisten* or nutricionista*).tw,kw.	45834
214	(medically-tailored adj3 nutrition*).tw,kw.	2
215	((diet* or nutrition*) adj3 (counsel* or advice or consultation* or intervention or behavio* or program* or service* or assessment* or therap* or individuali?ed or personali?ed or habit* or recommendation* or change* or improve* or education* or support* or self-manage* or management or prescription*)).tw,kw.	333145
216	((low or restrict* or reduc* or free) adj2 protein adj2 diet*).tw,kw.	16135
217	((low or restrict* or reduc* or free) adj2 (sodium or salt) adj2 diet*).tw,kw.	11494
218	or/211-217 [NUTRITION]	1258577
219	210 and 218	29915
220	exp Child/ not (exp Adult/ or Adolescent/)	2345108
221	exp Infant/ not (exp Adult/ or Adolescent/)	1395373
222	219 not (220 or 221) [INFANT-, CHILD-ONLY REMOVED]	28975
223	conference abstract.pt.	3649665
224	222 not 223 [CONFERENCE ABSTRACTS REMOVED]	24068
225	limit 224 to yr="2000 -Current" [Limit not valid in DARE; records were retained]	17652
226	225 use cctr [COCHRANE CENTRAL]	1203
231	225 use coch [COCHRANE DATABASE OF SYSTEMATIC REVIEWS]	88
232	225 use clhta [HEALTH TECHNOLOGY ASSESSMENT DATABASE]	4
233	225 use dare [DATABASE OF ABSTRACTS OF REVIEWS OF EFFECTS DATABASE]	58

CINAHL

#	Query	Results
S42	S36 and (S37 or S38 or S39) Limiters - Published Date: 20000101-20191231; English Language	377
S41	S36 and (S37 or S38 or S39) Limiters - English Language	388
S40	S36 and (S37 or S38 or S39)	406
S39	MH ("Meta Analysis" OR "Systematic Review") OR TI ((systematic* N2 (review* or overview*)) or (methodologic* N2 (review* or overview*))) OR ((quantitative N2 (review* or overview* or syntheses*) or (research N2 (integrati* or overview*))) OR ((integrative N2 (review* or overview*)) or (collaborative N2 (review* or overview*)) or (pool* N2 analy*)) OR ("data syntheses*" or "data extraction*" or "data abstraction*") OR (handsearch* or "hand search*") OR ("mantel haenszel" or peto or "der simonian" or dersimonian or "fixed effect*" or "latin square*") OR ("met analy*" or metanaly* or "technology assessment*" or HTA or HTAs or "technology overview*" or "technology appraisal*") OR ("meta regression*" or metaregression*) OR ("meta-analy*" or metaanaly* or "systematic review*" or "biomedical technology assessment*" or "bio-medical technology assessment*") OR (medline or cochrane or pubmed or medlars or embase or cinahl) OR (comparative N2 (efficacy or effectiveness)) OR ("outcomes research" or "relative effectiveness") OR ((indirect or "indirect treatment" or "mixed-treatment") N0 comparison*) OR AB ((systematic* N2 (review* or overview*)) or (methodologic* N2 (review* or overview*))) OR ((quantitative N2 (review* or overview* or syntheses*)) or (research N2 (integrati* or overview*))) OR ((integrative N2 (review* or overview*)) or (collaborative N2 (review* or overview*)) or (pool* N2 analy*)) OR ("data syntheses*" or "data extraction*" or "data abstraction*") OR (handsearch* or "hand search*") OR ("mantel haenszel" or peto or "der simonian" or dersimonian or "fixed effect*" or "latin square*") OR ("met analy*" or metanaly* or "technology assessment*" or HTA or HTAs or "technology overview*" or "technology appraisal*") OR ("meta regression*" or metaregression*) OR ("meta-analy*" or metaanaly* or "systematic review*" or "biomedical technology assessment*" or "bio-medical technology assessment*") OR (medline or cochrane or pubmed or medlars or embase or cinahl) OR (comparative N2 (efficacy or effectiveness)) OR ("outcomes research" or "relative effectiveness") OR ((indirect or "indirect treatment" or "mixed-treatment") N0 comparison*)	210,294
S38	TI (trial) OR TI (control* n1 group*) or AB (control* n1 group*) OR TI (pretest n2 posttest) or AB (pretest n2 posttest) OR TI (pre n2 post) or AB (pre n2 post) OR TI "time series" or AB "time series" OR TI (control* n2 ("before and after" or	462,153

	"before after")) or AB (control* n2 ("before and after" or "before after")) OR TI (nRCT or nRCTs or non-RCT#) or AB (nRCT or nRCTs or non-RCT#) OR TI (nonrandom* or non-random* or quasi-random* or quasi-experiment*) or AB (nonrandom* or non-random* or quasi-random* or quasi-experiment*) OR TI (control* n1 trial*) or AB (control* n1 trial*) OR (MH "Clinical Trials+") or (MH "Controlled Before-After Studies+") or (MH "Historically Controlled Study") or (MH "Interrupted Time Series Analysis") or (MH "Nonrandomized Trials") or (MH "Pretest-Posttest Design+") or (MH "Control Group")	
S37	MH ("clinical trials+" or "randomized controlled trials+") or TI (randomi#ed or randomi#ation? or randomly or RCT or placebo*) or AB (randomi#ed or randomi#ation? or randomly or RCT or placebo*) or TI ((singl* or doubl* or trebl* or tripl*) NO (mask* or blind* or dumm*)) or AB ((singl* or doubl* or trebl* or tripl*) NO (mask* or blind* or dumm*)) or TI (trial)	426,520
S36	S25 and S35	2,237
S35	S26 or S27 or S28 or S29 or S30 or S31 or S32 or S33 or S34	149,266
S34	((low or restrict* or reduc* or free) NEAR/1 (sodium or salt) NEAR/1 diet*)	6
S33	((low or restrict* or reduc* or free) NEAR/1 (sodium or salt) NEAR/1 diet*)	0
S32	((low or restrict* or reduc* or free) NEAR/1 protein NEAR/1 diet*)	6
S31	((low or restrict* or reduc* or free) NEAR/1 protein NEAR/1 diet*)	0
S30	((diet* or nutrition*) NEAR/2 (counsel* or advice or consultation* or intervention or behavio* or program* or service* or assessment* or therap* or individuali?ed or personali?ed or habit* or recommendation* or change* or improve* or education* or support* or self-manage* or management or prescription*))	23
S29	((diet* or nutrition*) NEAR/2 (counsel* or advice or consultation* or intervention or behavio* or program* or service* or assessment* or therap* or individuali?ed or personali?ed or habit* or recommendation* or change* or improve* or education* or support* or self-manage* or management or prescription*))	0
S28	(medically-tailored NEAR/2 nutrition*)	0
S27	(dietetic* or dietitian* or dietician* or nutritionist* or dieteticien* or dietisten* or nutricionista*)	14,324
S26	(MH "Dietetics") OR (MH "Nutrition Services+") OR (MH "Diet Therapy+") OR (MH "Diet+") OR (MH "Nutritional Assessment") OR (MH "Nutritional Requirements+") OR (MH "Eating Behavior+")	141,468

S25	S1 or S2 or S3 or S4 or S5 or S6 or S7 or S8 or S9 or S10 or S11 or S12 or S13 or S14 or S15 or S16 or S17 or S18 or S19 or S20 or S21 or S22 or S23 or S24	60,713
S24	TI ((kidney transplant* or renal transplant*) and (recipients or candidates or wait list or waiting list*)) or AB ((kidney transplant* or renal transplant*) and (recipients or candidates or wait list or waiting list*))	3,568
S23	(MM "Kidney Transplantation")	7,364
S22	(TI (diabet*) or (MH "Disease Progression")) and TI (nephropath* or m#croalbuminuri* or albuminuri*)	2,898
S21	(MH ("Disease Progression" or "Chronic Disease") or TI ((kidney or renal) N0 function) or TI (proteinuria*)) and (MM ("Kidney Diseases" or "Renal Insufficiency" or "Renal Artery Obstruction"))	2,956
S20	((MM "Kidney Diseases+") or ((kidney or renal) N0 disease) or dialy* or ur#emi*) and (TI (calcification) or AB (calcification) or hyperparathyroidism or (left ventricul* N1 hypertroph*) or hypercalc#emia)	2,499
S19	((chronic* or severe or catheter* or pd or capd or hd) and (dialy* or h#emodialy* or renal replacement or azot#emia))	19,181
S18	((kidney or renal) and (ckf or crd or crf or eskd or eskf or esrd or esrf))	4,147
S17	TI (polycystic kidney*)	774
S16	TI (renal hyperparathyroidism) or AB (renal hyperparathyroidism)	164
S15	(MH "Denys-Drash Syndrome")	14
S14	TI (calciophylaxis) or AB (calciophylaxis)	285
S13	TI ((kidney or renal or interstitial) N0 fibrosis)	357
S12	(MM "Renal Osteodystrophy")	156
S11	TI (macroalbuminuri*) or AB (macroalbuminuri*)	496
S10	TI (nephrosclerosis or glomerulosclerosis or glomerular sclerosis)	391
S9	(MH "Peritoneal Dialysis+")	3,336
S8	(MM "Diabetic Nephropathies")	3,397
S7	TI ((chronic or progressive) N0 (kidney or renal or ur#emi*))	8,804
S6	TI (h#emodia* or dialys*) or TI (ckd) or AB (ckd)	23,996
S5	TI ((kidney or renal) N0 (disease or insufficiency))	13,871
S4	((h#emodialysis or dialysis or ur#emic) N0 patient*)	10,644
S3	TI ((end stage or endstage) N0 (kidney or renal))	2,639

S2	TI ((chronic or diabetic or advanced) NO kidney) or AB ((chronic or diabetic or advanced) NO kidney)	15,308
S1	(MM "Renal Insufficiency, Chronic+")	18,418

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#31	782	(#25 and (#26 or #27 or #28)) AND LANGUAGE: (English)
		Refined by: [excluding] DOCUMENT TYPES: (EDITORIAL MATERIAL OR MEETING ABSTRACT OR PROCEEDINGS PAPER)
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=2000-2019
# 30	860	(#25 and (#26 or #27 or #28)) AND LANGUAGE: (English)
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=2000-2019
# 29	1,009	#25 and (#26 or #27 or #28)
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 28	631,343	TS=((("systematic*" near/2 ("review*" or "overview*")) or ("methodologic*" near/2 ("review*" or "overview*"))) OR (("quantitative" near/2 ("review*" or "overview*" or "synthes*")) or ("research" near/2 ("integrati*" or "overview*"))) OR (("integrative" near/2 ("review*" or "overview*")) or ("collaborative" near/2 ("review*" or "overview*")) or ("pool*" near/2 "analy*")) OR ("data synthes*" or "data extraction*" or "data abstraction*") OR ("handsearch*" or "hand search*") OR ("mantel haenszel" or "peto" or "der simonian" or "dersimonian" or "fixed effect*" or "latin square*") OR ("met analy*" or "metanaly*" or "technology assessment*" or "HTA" or "HTAs" or "technology overview*" or "technology appraisal*") OR ("meta regression*" or "metaregression*") OR ("meta-analy*" or "metaanaly*" or "systematic review*" or "biomedical technology assessment*" or "bio-medical technology assessment*") OR ("medline" or "cochrane" or "pubmed" or "medlars" or "embase" or "cinahl") OR ("comparative" near/2 ("efficacy" or "effectiveness")) OR ("outcomes research" or "relative effectiveness") OR (("indirect" or "indirect treatment" or "mixed-treatment") near/0 "comparison*"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years

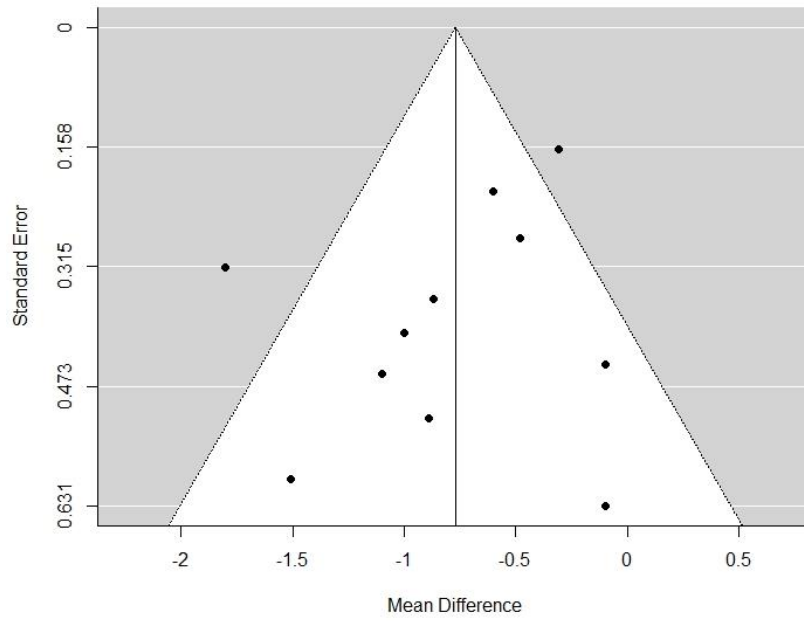
# 27	1,415,150	TS= ("control*" near/1 "trial*") OR ("nonrandom*" or "non-random*" or "quasi-random*" or "quasi-experiment*") OR ("nRCT" or "nRCTs" or "non-RCT*") OR ("control*" near/2 ("before and after" or "before after")) OR "time series" OR ("pretest" near/2 "posttest") OR ("control*" near/1 "stud*") OR ("control*" near/1 "group*") OR TI="trial"
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 26	1,452,003	TS=("randomi?ed" or "randomi?ation\$" or "randomly" or "RCT" or "placebo*") or TS(("singl*" or "doubl*" or "trebl*" or "tripl*") near/0 ("mask*" or "blind*" or "dumm*")) or TI=("trial")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 25	4,312	#18 and #24
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 24	154,098	#19 or #20 or #21 or #22 or #23
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 23	3,878	TS(("low" or "restrict*" or "reduc*" or "free") NEAR/1 ("sodium" or "salt") NEAR/1 "diet*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 22	8,287	TS(("low" or "restrict*" or "reduc*" or "free") NEAR/1 "protein" NEAR/1 "diet*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 21	134,502	TS(("diet*" or "nutrition*") NEAR/2 ("counsel*" or "advice" or "consultation*" or "intervention" or "behavio*" or "program*" or "service*" or "assessment*" or "therap*" or "individuali?ed" or "personali?ed" or "habit*" or "recommendation*" or "change*" or "improve*" or "education*" or "support*" or "self-manage*" or "management" or "prescription*"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years

# 20	0	TS=("medically-tailored" NEAR/2 "nutrition*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 19	15,278	TS=("dietetic*" or "dietitian*" or "dietician*" or "nutritionist*" or "dieteticien*" or "dietisten*" or "nutricionista*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 18	276,915	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 17	47,515	TS(("kidney transplant*" or "renal transplant*") and ("recipients" or "candidates" or "wait list" or "waiting list*"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 16	15,463	TI(("diabet*") and ("nephropath*" or "m\$croalbuminuri*" or "albuminuri*"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 15	14,799	TS((((("kidney" or "renal") NEAR/0 "disease") or "dialy*" or "ur\$emi*") and ("calcification" or "hyperparathyroidism" or ("left ventricul*" NEAR/1 "hypertroph*" or "hypercalc\$emia"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 14	78,183	TS(("chronic*" or "severe" or "catheter*" or "pd" or "capd" or "hd") and ("dialy*" or "h\$emodialy*" or "renal replacement" or "azot\$emia"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 13	19,411	TS(("kidney" or "renal") and ("ckf" or "crd" or "crf" or "eskd" or "eskf" or "esrd" or "esrf"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 12	5,827	TI("polycystic kidney*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years

# 11	398	TS=("renal hyperparathyroidism")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 10	1,501	TS=("calciophylaxis")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 9	3,196	TI(("kidney" or "renal" or "interstitial") NEAR/0 "fibrosis")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 8	1,696	TS=("macroalbuminuri*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 7	4,238	TI(("nephrosclerosis" or "glomerulosclerosis" or "glomerular sclerosis")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 6	40,365	TI(("chronic" or "progressive") NEAR/0 ("kidney" or "renal" or "ur\$emi*"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 5	81,740	TI(("h\$emodia*" or "dialys\$") or TS=("ckd"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 4	58,019	TI(("kidney" or "renal") NEAR/0 ("disease" or "insufficiency"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 3	56,353	TS(("h\$emodialysis" or "dialysis" or "ur\$emic") NEAR/0 "patient*")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 2	11,851	TI(("end stage" or "endstage") NEAR/0 ("kidney" or "renal"))
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years
# 1	68,664	TS(("chronic" or "diabetic" or "advanced") NEAR/0 "kidney")
		Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI Timespan=All years

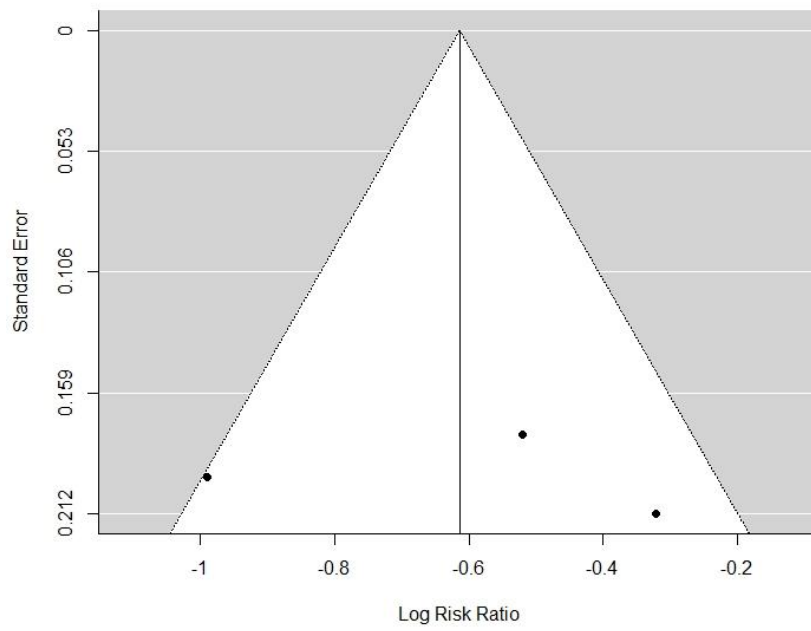
Supplement 3. Funnel Plots Demonstrating Publication Bias for the Outcomes a) Serum Phosphorus Levels and b) Hyperphosphatemia

a.



Egger regression test funnel plot asymmetry: $z=-0.70$; $p=0.48$

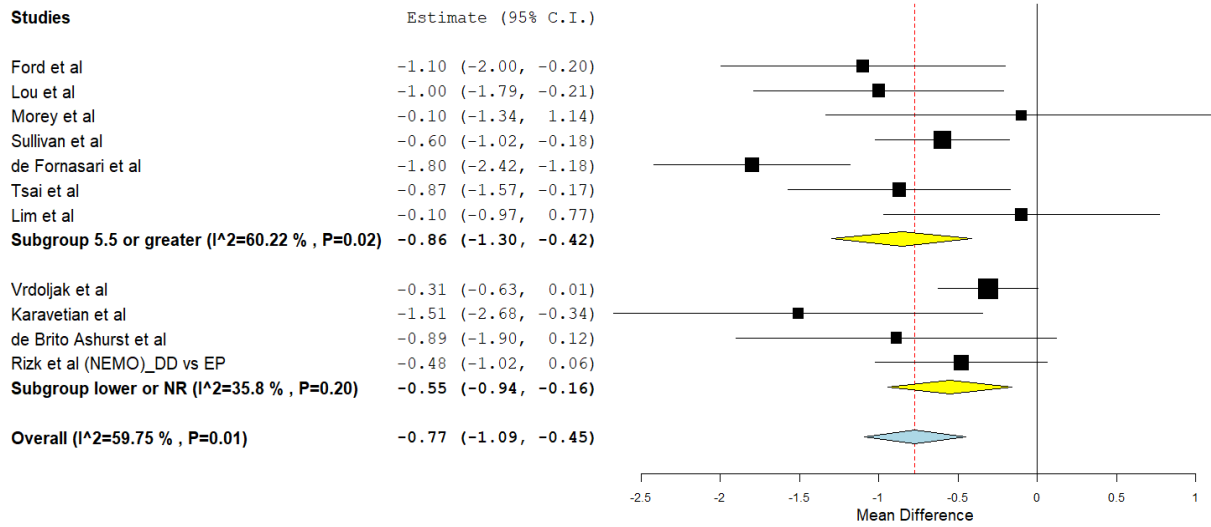
b.



Egger regression test funnel plot asymmetry: $z=0.23$; $p=0.82$

Supplement 4. Sensitivity Analysis for Meta-Analysis Demonstrating the Effect of Phosphorus-Focused MNT Delivered by a Dietitian on Serum Phosphate Levels according to a) Baseline Serum Phosphate Levels ≥ 5.5 mg/dL and b) Study Risk of Bias

a.



b.

