

SUPPLEMENTARY MATERIAL

Table S1 Search strategy for (A) Embase, (B) Pubmed, and (C) Cochrane central register of controlled trials or of systematic reviews. Searches conducted on July 31, 2021

(A) EMBASE

STEP	Search String	Hits
1	appetite/	23438
2	anorexia/	63739
3	(appetite or anorexia).mp.	159439
4	or/1-3	159439
5	geriatrics/	31284
6	(elderly or older or geriatric or geriatrics or ageing or aging).ti,ab,kw.	1207616
7	5 or 6	1214328
8	4 and 7	8315
9	(anorexia nervosa or obes* or overweight).ti,ab,kw.	538308
10	8 not 9	7469
11	(animal\$ not human\$).sh,hw.	4515249
12	conference abstract.pt.	4140712
13	editorial or comment* or letter or note case study or case studies or case report* or erratum).pt. or (case stud* or case report*).ti,ab,kw.	2778642
14	or/11-13	11056730
15	10 not 14	5287
16	limit 15 to English language	4849
17	limit 16 to yr="2011 -Current"	2871
18	remove duplicates from 17	2837

(B) PUBMED

STEP	Search String	Hits
1	"appetite"[MeSH Terms]	10,935
2	"anorexia"[MeSH Terms]	5,111
3	"appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields]	82,428
4	"appetite"[MeSH Terms] OR "anorexia"[MeSH Terms] OR "appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields]	82,428
5	"geriatrics"[MeSH Terms]	30,586
6	"geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word]	673,320
7	"geriatrics"[MeSH Terms] OR "geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word]	691,578
8	("appetite"[MeSH Terms] OR "anorexia"[MeSH Terms] OR ("appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields])) AND ("geriatrics"[MeSH Terms] OR	2,526

9	("geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word]) ("Animals"[MeSH Terms] NOT ("Animals"[MeSH Terms] AND "Humans"[MeSH Terms])) OR ("animal*"[Title/Abstract] OR "in vitro"[Title/Abstract] OR "tissue*"[Title/Abstract] OR "murine"[Title/Abstract] OR "mouse"[Title/Abstract] OR "mice"[Title/Abstract] OR "swine*"[Title/Abstract] OR "pig"[Title/Abstract] OR "pigs"[Title/Abstract] OR "porcine"[Title/Abstract] OR "rat"[Title/Abstract] OR "rats"[Title/Abstract] OR "rodent*"[Title/Abstract] OR "monkey"[Title/Abstract] OR "monkeys"[Title/Abstract] OR "ape"[Title/Abstract] OR "apes"[Title/Abstract] OR "dog"[Title/Abstract] OR "dogs"[Title/Abstract] OR "canine*"[Title/Abstract] OR "cat"[Title/Abstract] OR "cats"[Title/Abstract] OR "feline*"[Title/Abstract] OR "cow"[Title/Abstract] OR "bovine"[Title/Abstract] OR "horse"[Title/Abstract] OR "equine"[Title/Abstract])	7,951,611
10	(("appetite"[MeSH Terms] OR "anorexia"[MeSH Terms] OR ("appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields])) AND ("geriatrics"[MeSH Terms] OR "geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word])) NOT (("Animals"[MeSH Terms] NOT ("Animals"[MeSH Terms] AND "Humans"[MeSH Terms])) OR ("animal*"[Title/Abstract] OR "in vitro"[Title/Abstract] OR "tissue*"[Title/Abstract] OR "murine"[Title/Abstract] OR "mouse"[Title/Abstract] OR "mice"[Title/Abstract] OR "swine*"[Title/Abstract] OR "pig"[Title/Abstract] OR "pigs"[Title/Abstract] OR "porcine"[Title/Abstract] OR "rat"[Title/Abstract] OR "rats"[Title/Abstract] OR "rodent*"[Title/Abstract] OR "monkey"[Title/Abstract] OR "monkeys"[Title/Abstract] OR "ape"[Title/Abstract] OR "apes"[Title/Abstract] OR "dog"[Title/Abstract] OR "dogs"[Title/Abstract] OR "canine*"[Title/Abstract] OR "cat"[Title/Abstract] OR "cats"[Title/Abstract] OR "feline*"[Title/Abstract] OR "cow"[Title/Abstract] OR "bovine"[Title/Abstract] OR "horse"[Title/Abstract] OR "equine"[Title/Abstract]))	1,923
11	"editorial"[Publication Type] OR "comment"[Publication Type] OR "letter"[Publication Type] OR "case reports"[Publication Type]	3,958,062
12	(("appetite"[MeSH Terms] OR "anorexia"[MeSH Terms] OR ("appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields])) AND ("geriatrics"[MeSH Terms] OR "geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word])) NOT (("Animals"[MeSH Terms] NOT ("Animals"[MeSH Terms] AND "Humans"[MeSH Terms])) OR ("animal*"[Title/Abstract] OR "in vitro"[Title/Abstract] OR "tissue*"[Title/Abstract] OR "murine"[Title/Abstract] OR "mouse"[Title/Abstract] OR "mice"[Title/Abstract] OR "swine*"[Title/Abstract] OR "pig"[Title/Abstract] OR "pigs"[Title/Abstract] OR "porcine"[Title/Abstract] OR "rat"[Title/Abstract] OR "rats"[Title/Abstract] OR "rodent*"[Title/Abstract] OR "monkey"[Title/Abstract] OR "monkeys"[Title/Abstract] OR "ape"[Title/Abstract] OR "apes"[Title/Abstract] OR "dog"[Title/Abstract] OR "dogs"[Title/Abstract] OR "canine*"[Title/Abstract] OR "cat"[Title/Abstract] OR "cats"[Title/Abstract] OR "feline*"[Title/Abstract] OR "cow"[Title/Abstract] OR "bovine"[Title/Abstract] OR "horse"[Title/Abstract] OR "equine"[Title/Abstract])) NOT ("editorial"[Publication Type] OR "comment"[Publication Type] OR "letter"[Publication Type] OR "case reports"[Publication Type])	1,664
13	((((("appetite"[MeSH Terms] OR "anorexia"[MeSH Terms] OR ("appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields])) AND ("geriatrics"[MeSH Terms] OR "geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word])) NOT (("Animals"[MeSH Terms] NOT ("Animals"[MeSH Terms] AND "Humans"[MeSH Terms])) OR ("animal*"[Title/Abstract] OR "in vitro"[Title/Abstract] OR "tissue*"[Title/Abstract] OR "murine"[Title/Abstract] OR "mouse"[Title/Abstract] OR "mice"[Title/Abstract] OR "swine*"[Title/Abstract] OR "pig"[Title/Abstract] OR "pigs"[Title/Abstract] OR "porcine"[Title/Abstract] OR "rat"[Title/Abstract] OR "rats"[Title/Abstract] OR "rodent*"[Title/Abstract] OR "monkey"[Title/Abstract] OR "monkeys"[Title/Abstract] OR "ape"[Title/Abstract] OR "apes"[Title/Abstract] OR "dog"[Title/Abstract] OR "dogs"[Title/Abstract] OR "canine*"[Title/Abstract] OR	1,485

	"cat"[Title/Abstract] OR "cats"[Title/Abstract] OR "feline*"[Title/Abstract] OR "cow"[Title/Abstract] OR "bovine"[Title/Abstract] OR "horse"[Title/Abstract] OR "equine"[Title/Abstract])) NOT ("editorial"[Publication Type] OR "comment"[Publication Type] OR "letter"[Publication Type] OR "case reports"[Publication Type])) AND (English[Filter])	
14	((("appetite"[MeSH Terms] OR "anorexia"[MeSH Terms] OR ("appetite"[MeSH Terms] OR "appetite"[All Fields] OR "appetites"[All Fields] OR "appetitive"[All Fields] OR "appetitively"[All Fields] OR "appetitiveness"[All Fields] OR "anorexia"[MeSH Terms] OR "anorexia"[All Fields] OR "anorexias"[All Fields]))) AND ("geriatrics"[MeSH Terms] OR "geriatric"[Text Word] OR "older population"[Text Word] OR "elderly"[Text Word] OR "ageing"[Text Word] OR "aging"[Text Word])) NOT (("Animals"[MeSH Terms] NOT ("Animals"[MeSH Terms] AND "Humans"[MeSH Terms])) OR ("animal*"[Title/Abstract] OR "in vitro"[Title/Abstract] OR "tissue*"[Title/Abstract] OR "murine"[Title/Abstract] OR "mouse"[Title/Abstract] OR "mice"[Title/Abstract] OR "swine*"[Title/Abstract] OR "pig"[Title/Abstract] OR "pigs"[Title/Abstract] OR "porcine"[Title/Abstract] OR "rat"[Title/Abstract] OR "rats"[Title/Abstract] OR "rodent*"[Title/Abstract] OR "monkey"[Title/Abstract] OR "monkeys"[Title/Abstract] OR "ape"[Title/Abstract] OR "apes"[Title/Abstract] OR "dog"[Title/Abstract] OR "dogs"[Title/Abstract] OR "canine*"[Title/Abstract] OR "cat"[Title/Abstract] OR "cats"[Title/Abstract] OR "feline*"[Title/Abstract] OR "cow"[Title/Abstract] OR "bovine"[Title/Abstract] OR "horse"[Title/Abstract] OR "equine"[Title/Abstract])) NOT ("editorial"[Publication Type] OR "comment"[Publication Type] OR "letter"[Publication Type] OR "case reports"[Publication Type])) AND (English[Filter]) AND (2011:2021[pdat]))	762
	Total hits from line 14	762

(C) Cochrane Central Register of Controlled Trials; Cochrane Database of Systematic Reviews

STEP	Search String	Hits
1	appetite/	1256
2	anorexia/	402
3	(appetite or anorexia).mp.	16744
4	or/1-3	16744
5	geriatrics/	208
6	(elderly or older or geriatric or geriatrics or ageing or aging).ti,ab,kw.	112558
7	5 or 6	112578
8	4 and 7	1052
9	(anorexia nervosa or obes* or overweight).ti,ab,kw.	49834
10	8 not 9	952
11	(animal\$ not human\$).sh,hw.	2149
12	conference abstract.pt.	16875
13	(editorial or comment* or letter or note case study or case studies or case report* or erratum).pt. or (case stud* or case report*).ti,ab,kw.	26139
14	or/11-13	44315
15	10 not 14	931
16	limit 15 to English language [Limit not valid in CDSR; records were retained]	691
17	limit 16 to yr="2011 -Current"	493
18	remove duplicates from 17	483

Table S2 Analysis of risk of bias for (A) longitudinal cohort studies (Newcastle-Ottawa Scale) and for (B) longitudinal cross-sectional studies (modified Newcastle-Ottawa Scale) identified in the systematic literature review

(A) Newcastle-Ottawa Scale for cohort studies¹³

Author, year	Representativeness of the exposed cohort	Selection of the non-exposed cohort	Ascertainment of exposure	Demonstration that outcome of interest was not present at start of study	Comparability of cohorts on the basis of the design or analysis	Assessment of outcome	Was follow-up long enough for outcomes to occur?	Adequacy of follow-up of cohorts	Total
Cai et al., 2020 ¹⁷	0	1	0	1	2	1	1	1	7
Cox et al., 2021 ³⁵	1	1	1	0	1	1	0	1	6
Cox et al., 2020 ²⁵	0	1	1	1	2	1	1	1	8
De Almeida Mello et al., 2020 ³³	1	1	1	1	2	0	1	1	8
Dent et al., 2015 ⁴³	0	1	1	1	2	1	1	1	8
Engelheart et al., 2021 ²⁴	0	1	1	1	1	1	1	0	6
Fournier et al., 2016 ²³	1	1	1	1	2	1	1	1	9
Hippisley-Cox & Coupland, 2017 ¹⁶	1	1	1	1	2	1	1	1	9
Hofer et al., 2018 ²⁷	0	1	1	1	2	1	1	1	8
Hsu et al., 2019 ³⁸	1	1	1	1	2	0	1	1	8
Huang et al., 2018 ²⁰	1	1	1	1	2	1	1	1	9
Huang et al., 2014 ¹⁹	1	1	1	1	2	1	1	1	9
Kanamori et al., 2012 ³²	0	1	0	1	2	0	1	1	6
Kirkhus et al., 2019 ⁴⁶	1	1	1	0	2	1	1	1	8
Lambert et al., 2017 ¹⁵	0	1	0	0	2	1	0	0	4
Landi et al., 2012 ¹⁸	1	1	1	1	2	1	1	1	9
Landi et al., 2013 ⁸	1	1	1	0	2	1	1	1	8
Martinez-Reig et al., 2014 ³⁷	0	1	1	0	2	1	1	1	7
Menldelson et al., 2018 ⁴⁴	0	1	1	1	0	1	1	1	6
Mikami et al., 2019 ³¹	1	1	1	1	2	1	1	1	9
Pilgrim et al., 2016 ²⁶	0	1	1	1	2	1	1	1	8
Rawle et al., 2020 ²⁹	0	1	1	1	2	1	1	1	8

Salanitro et al., 2012 ⁴¹	1	1	1	1	2	1	1	1	9
Salminen et al., 2017 ³⁹	0	1	0	1	2	1	1	1	7
Schilp et al., 2011 ³⁴	1	1	1	1	2	1	1	1	9
Schmidt et al., 2014 ³⁰	0	1	1	1	2	1	1	1	8
Senoo et al., 2020 ³⁶	0	1	1	1	2	1	1	1	8
Sheppard et al., 2013 ⁴⁰	0	1	1	1	2	1	1	1	8
St John & Montgomery, 2014 ²¹	1	1	1	1	2	1	1	1	9
Taniguchi et al., 2019 ²⁸	0	1	1	1	2	0	1	1	7
Tsutsumimoto et al., 2018 ⁷	1	1	1	1	2	1	1	0	8
Van Dronkelaar et al., 2019 ⁴²	1	1	1	0	2	1	1	1	8
Van Grootven et al., 2020 ⁴⁵	0	1	1	1	2	1	1	1	8
Wijnhoven et al., 2012 ²²	1	1	1	1	2	1	1	1	9
Won et al., 2019 ⁴⁷	0	1	1	1	2	1	1	1	8

(B) Modified Newcastle-Ottawa Scale for cross-sectional studies¹⁴

Author, year	Representativeness of the sample	Sample size	Respondents/ non-respondents	Ascertainment of exposure	Comparability of different outcome groups on the basis of the design or analysis	Assessment of outcome	Statistical test	Total
Acar Tek and Karaçil-Ermumcu, 2018 ⁶³	0	1	1	1	2	1	1	7
Arkkukangas et al., 2020 ⁵⁵	1	1	1	0	2	0	1	6
Berggren et al., 2020 ⁵⁴	0	1	1	1	2	1	1	7
Buhl et al., 2021 ⁵³	0	1	1	1	2	0	1	6
Dent et al., 2018 ⁶⁷	0	1	1	1	0	1	1	5
Donini et al., 2011 ⁶¹	1	1	0	1	1	1	1	6
Donini et al., 2013 ⁹	0	1	1	1	1	1	1	6
Fonad et al., 2015 ⁶²	1	1	1	0	2	0	1	6
Hirose et al., 2014 ⁴⁹	1	1	1	0	2	1	1	7

Kiesswetter et al., 2020 ⁴⁸	1	1	1	1	2	1	1	8
Kim et al., 2019 ⁶⁰	0	1	1	1	2	1	1	7
Landi et al., 2013 ⁶⁴	1	1	1	1	2	1	1	8
Madeira et al., 2018 ⁶⁸	1	1	1	1	2	1	1	8
Nakatsu et al., 2015 ⁶⁶	0	1	1	1	0	1	1	5
Nambooze et al., 2014 ⁵²	1	1	1	1	2	1	1	8
Pisu et al., 2018 ⁵⁸	1	1	1	1	2	1	1	8
Pohlhausen et al., 2016 ⁵⁰	1	1	0	1	1	1	1	6
Reijnierse et al., 2015 ⁶⁵	0	1	1	1	2	1	1	7
Tsutsumimoto et al., 2017 ⁵⁷	1	1	1	1	2	1	1	8
Tsutsumimoto et al., 2020 ⁵⁶	1	1	1	1	2	1	1	8
van der Pols-Vijlbrief et al., 2016 ⁵¹	0	1	1	1	1	1	1	6
van Steijn et al., 2014 ⁶⁹	0	1	1	1	2	1	1	7
Yamamoto et al., 2020 ⁵⁹	1	0	1	1	2	0	1	6

Table S3 Measures used to define anorexia/appetite loss

Measure	Description	Study references
Simplified Nutritional Appetite Questionnaire (SNAQ Simplified) ⁷⁰	4-item self-report (responses on 5-point Likert-type scale, range 4–20 points), which is a subset of the 8-item CNAQ. All questions are on appetite/food consumption. Lower scores indicate decreased appetite. A score of ≤ 14 indicates significant risk of $\geq 5\%$ weight loss within 6 months and is often used to indicate anorexia or appetite loss. Recall period: Not specified	Acar Tek and Karaçil-Ermumcu, 2018; Buhl et al., 2021; Cox et al., 2021; Cox et al., 2020; Dent et al., 2015; Dent et al., 2018; Mikami et al., 2019; Nakatsu et al., 2015; Pilgrim et al., 2016; Senoo et al., 2020; Tsutsumimoto et al., 2017; Tsutsumimoto et al., 2018; Tsutsumimoto et al., 2020; van der Pols-Vijlbrief et al., 2016
Short Nutritional Assessment Questionnaire (SNAQ Short) ⁷¹	For hospitalized subjects, 3 questions on weight loss, appetite decrease, and supplemental drinks/tube feeding. Measures nutrition and not just appetite; appetite decrease question used to assess appetite loss. Recall period: Past month	Mendelson et al., 2018; Reijnierse et al., 2015; van Dronkelaar et al., 2019
Council on Nutrition Appetite Questionnaire (CNAQ) ⁷⁰	8-item self-report. Total scores range from 8 to 40 points; lower scores indicate deterioration in appetite. A CNAQ score < 28 may identify persons with anorexia at significant risk of weight loss Recall period: Not specified	Kim et al., 2019, van Steijn et al., 2014, Yamamoto et al., 2020
Center for Epidemiologic Studies Depression Scale (CES-D) ⁷⁹	Includes a question about appetite: “I did not feel like eating; my appetite was poor,” with response categories: 1 = “rarely or none of the time”; 2 = “some or little of the time”; 3 = “occasionally or moderate amount of the time”; and 4 = “most or all of the time” Recall period: Past week	Hsu et al., 2019, Schilp et al., 2011, St John and Montgomery, 2014, Wijnhoven et al., 2012
European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30) ⁸⁰	Question 13 is on appetite: “During the past week have you lacked appetite?” 4 options: Not at all, a little, quite a bit, very much. Usually transformed to 100-point scale; 0 = best, 100 = worst. Recall period: Past week	Fournier et al., 2016, Hofer et al., 2018, Kirkhus et al., 2019, Schmidt et al., 2014, Won et al., 2019
Edmonton Symptom Assessment System (ESAS) ⁸¹	Includes a question on lack of appetite. Scores ranges from 0 (no lack of appetite) to 10 (worst possible lack of appetite). Recall period: Past 24 hours	Berggren et al., 2020
Functional Assessment of Anorexia/Cachexia Treatment (FAACT) ⁷²	Includes Anorexia/Cachexia Treatment Subscale, 12 questions and a total score, and Functional Assessment of Cancer Treatment – General (FACT-G). Recall period: Past week	Berggren et al., 2020
MD Anderson Symptom Inventory (MDASI) ⁸²	Lack of appetite, ranges from 0 (symptom not present) to 10 (worst). Recall period: Past 24 hours	Pisu et al., 2018

Mini Nutritional Assessment-Short Form (MNA-SF)⁸³	First question is on food intake. MNA-SF includes 6 items with a maximum score of 14 points, and evaluates decrease in food intake (anorexia), weight loss during last three months, mobility, acute health status (psychological stress or acute disease), neuropsychological problems (dementia or depression) and body mass index or calf circumference data. Anorexia/appetite loss defined as food intake decline and scored as severe, moderate or no decrease in food intake. Recall period: Past 3 months	Hirose et al., 2014; Huang et al., 2018; Martinez-Reig et al., 2014
Mini Nutritional Assessment (MNA)⁸⁴	Full form includes 18 questions, with total score = 30. Evaluates decrease in food intake (anorexia), weight loss during last three months, mobility, acute health status (psychological stress or acute disease), neuropsychological problems (dementia or depression) and body mass index, calf or mid-arm circumference data. Validated cohorts include malnourished (< 17 points), at risk of malnutrition (17–23.5 points), well nourished (≥ 24 points). Recall period: Past 3 months	Nambooze et al., 2014
Patient-Reported Outcomes Measurement Information System (PROMIS)⁸⁵	Participants are asked “Would you say your appetite is usually very good, good, fair, or poor?”. Recall period: Past week	Sheppard et al., 2013
Patient-reported appetite	Various assessments used. Subjects asked one or more questions about appetite and/or food intake. Recall period: Not specified/variable	Arkkukangas et al., 2020; Engelheart et al., 2021; Fonad et al., 2015; Huang et al., 2014; Kanamori et al., 2012; Kiesswetter et al., 2020; Madeira et al., 2018; Pohlhausen et al., 2016; Salanitro et al., 2012; Salminen et al., 2018; Van Grootven et al., 2020
Staff-assessed food consumption	Staff reporting of food consumption over a given time period. Recall period: Not specified/variable	Donini et al., 2011; Donini et al., 2013; Landi et al., 2013; Landi et al., 2012; Taniguchi et al., 2019

CES-D, Center for Epidemiologic Studies Depression Scale; CNAQ, Council on Nutrition Appetite Questionnaire; EORTC QLQ-C30, European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire; ESAS, Edmonton Symptom Assessment System; FAACT, Functional Assessment of Anorexia/Cachexia Treatment; MDASI, MD Anderson Symptom Inventory; MNA, Mini Nutritional Assessment-Short Form; MNA-SF, Mini Nutritional Assessment-Short Form; PROMIS, Patient-Reported Outcomes Measurement Information System; SNAQ Short, Short Nutritional Assessment Questionnaire; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire.

Table S4 Relationship between anorexia/appetite loss and malnutrition, as reported in 15 identified studies

Author; year; country	Study design; sample size; follow-up time	Setting/cohort	Anorexia/ appetite Loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal studies					
De Almeida Mello et al.; 2020; Belgium³³	Retrospective longitudinal (case control); N = 6,334; 1 year	Community-dwelling, aged ≥ 65 yrs	Not reported	Unintentional weight loss: > 10% during past 3 months or > 5% over past month, and a BMI < 20 kg/m ² (aged < 70), or < 22 kg/m ² (aged ≥ 70)	Loss of appetite and risk of malnutrition as defined by unintentional weight loss Adjusted OR (95% CI) = 1.76 (1.21, 2.56), p = 0.003 Adjusted for dysphagia, comorbidities, depression, family support, physical function, cognition, and hospitalization within last 90 days
Schilp et al.; 2011; The Netherlands³⁴	Prospective longitudinal; N = 1,120; 9 years, assessed every 3 years	Community-dwelling, aged ≥ 65 yrs	CES-D	Risk of undernutrition: BMI < 20 kg/m ² or self-reported involuntary weight loss ≥ 5 % in past 6 months	Association of poor appetite and risk of undernutrition Adjusted HR (95%CI) = 1.63 (1.02, 2.61), p < 0.05 All determinants found to be statistically significantly associated with undernutrition in the univariate analyses were included in multivariate model
Lambert et al.; 2017; Germany¹⁵	Prospective longitudinal; N = 317; Follow-up duration not reported	Inpatient (subset of subjects hospitalized ≥ 2 nights), aged ≥ 70 yrs	Appetite question	Risk of Malnutrition or existing malnutrition: NRS ≥ 3 points, MNA-SF < 12 points, MNA < 23.5 points	Risk of malnutrition or existing malnutrition and appetite loss Adjusted OR (95% CI) = 4.54 (2.31, 8.90), p < 0.001 Adjusted for weight loss, number of medications, and frequency of vegetable consumption
Cross-sectional studies					
Pohlhausen et al.; 2016; Germany⁵⁰	Cross-sectional; N = 353; None	Community-dwelling (receiving home care), aged ≥ 65 yrs	Appetite question (subject-reported)	BMI (< 18.5, < 20, < 22 kg/m ²)	Association of poor appetite with BMI (n = 341) Univariate OR (95% CI) = -1.8 (-2.5, -1.0), p < 0.001 Age as covariate, sex as fixed factor
				Mid-upper arm circumference < 22 cm	Association of poor appetite with mid-upper arm circumference (n = 346): Univariate OR (95% CI) = -1.4 (-2.0, -0.8), p < 0.001 Age as covariate, sex as fixed factor
				Calf circumference < 31 cm, 22-25 cm	Association of poor appetite with calf circumference (n = 343): Univariate OR (95% CI) = -1.4 (-2.0, -0.8), p < 0.001 Age as covariate, sex as fixed factor
van der Pols-Vijlbrief et al.; 2016; The Netherlands⁵¹	Cross-sectional; N = 300; None	Community-dwelling (receiving home care), aged ≥ 65 yrs	SNAQ ⁶⁵⁺ Simplified 4-items	Risk of undernutrition: undernourished if unintentional weight loss of ≥ 4 kg in past 6 months OR if mid-upper arm circumference < 25 cm. Considered at risk of undernutrition if loss of appetite in the last week AND inability to walk up and down stairs of 15 steps without resting	Univariate association between appetite loss (SNAQ Simplified score) and risk of undernutrition Unadjusted OR (95%CI) = 0.66 (0.58, 0.76), p < 0.05

Berggren et al.; 2020; Sweden ⁵⁴	Cross-sectional; N = 121; None	Community-dwelling (older subjects receiving home care)	ESAS, Q7 (lack of appetite)	Risk of malnutrition vs no risk of malnutrition (MNA-SF used to screen individuals at risk for malnutrition)	Worst (highest) mean rank score on ESAS Q7 lack of appetite and malnutrition risk: (ordinal regression) adjusted OR (95% CI) = 2.37 (1.21, 4.64) Adjusted for sex, age, and living alone. Scale transformed to 1 to 5. ESAS Q7 appetite score (lower is better): No malnutrition mean rank (95% CI) = 2.0 (1.3, 2.6) vs malnutrition risk = 3.4 (2.5, 4.3), p = 0.012
			FAACT, Q1 (I have a good appetite) and total FAACT score	Risk of malnutrition vs no risk of malnutrition (MNA-SF used to screen individuals at risk for malnutrition)	FAACT Q1 worst (highest) score on 'I have a good appetite' and malnutrition risk: (ordinal regression) adjusted OR (95% CI) = 2.75 (1.38, 5.50) Adjusted for sex, age, and living alone FAACT Q1 mean rank: No malnutritional risk (95% CI) = 1.0 (0.8, 1.3) vs nutritional risk 1.6 (1.3, 1.9), p = 0.004 FAACT total score and malnutrition risk: p=0.001 for Fisher exact test, proportional odds assumption is not satisfied for ordinal logistic regression FAACT total score mean rank: No malnutritional risk (95% CI) = 8.4 (7.4, 9.3) vs nutritional risk = 13.5 (11.4, 15.7), p = 0.001
Buhl et al.; 2021; Denmark ⁵³	Cross-sectional; N = 126; None	Community-dwelling, aged ≥ 80 yrs	SNAQ Simplified	Low protein intake	Reduced appetite and odds of low protein intake Adjusted OR = 3.06, 95% CI (1.23, 7.63), p = 0.02 Adjusted for age, sex, BMI category, and number of diseases
Nakatsu et al.; 2015; Japan ⁶⁶	Cross-sectional; N = 84; None	Community-dwelling, aged ≥ 65 yrs	SNAQ Simplified	Nutritional status (MNA-SF)	Pearson correlations between SNAQ Simplified score and nutritional status MNA-SF: r = 0.3, p < 0.05
Nambooze et al.; 2014; Laos ⁵²	Cross-sectional; N = 144; None	Community-dwelling, aged ≥ 65 yrs, 3 ethnic groups (Oy, Brau, and Lao)	MNA Q1 (food intake question)	Risk of malnutrition	Logistic regression between reduced appetite and MNA score by ethnic group Coefficient (beta): Oy = -1.15, p < 0.01 Brau = -0.99, p < 0.01 Lao = -0.96, p < 0.05 Adjusted for BMI, meals consumed/d, comorbidities, neuropsychological stress, and activities of daily living.
Kiesswetter et al.; 2020; Germany ⁴⁸	Cross-sectional; N = 1,785 from 4 separate cross- sectional studies; None	Community-dwelling [n = 1073], institutional care [geriatric day hospital n = 180], home care [n = 335], and nursing home [n = 197])	Appetite question (subject-reported)	Protein–energy malnutrition	Association of poor appetite and malnutrition by residential setting: Adjusted OR (95%CI): Community dwelling = 2.42 (1.43, 4.10) Geriatric day hospital = 8.01 (3.48, 18.44) Home care = 3.99 (2.10, 7.58) Nursing home = not included in adjusted models but significant in univariate model (2.55 [1.19, 5.48]) Adjusted for age, gender, and number of individual risk factors (out of 20) from the domains of health status, mental function, physical function, and dietary intake and behavior
Dent et al.; 2018; Australia ⁶⁷	Cross-sectional; N = 172 Malnourished: 53 At risk: 84 Well nourished:	Inpatient, aged ≥ 70 yrs	SNAQ Simplified	Malnourished, at risk, or well nourished based on MNA: malnourished (< 17 points), at risk of malnutrition (17–23.5	Mean (SD) SNAQ Simplified score (out of 20) by nutrition status by MNA (full) score (out of 30) Malnourished = 11.7 (3.3) At risk = 13.3 (2.9) Well nourished = 15.1 (2.6); p < 0.001

	35; None			points), well nourished (≥ 24 points)	
Madeira et al.; 2018; Portugal⁶⁸	Cross-sectional ; N = 1,186; None	Institutional care (nursing home residents, without cognitive impairment)	Appetite question (subject-reported)	Risk of malnutrition (based on MNA 17–23.5 points)	Appetite and risk of malnutrition in subjects without cognitive impairment (n = 522) Adjusted OR (95% CI): No/little appetite = 6.46 (2.72, 15.34), p < 0.05 Some appetite = 2.61 (1.23, 5.53), p < 0.05 Reference: Lots of appetite Adjusted for sex, age, financial situation, eating difficulties, depression, functional status and loneliness
Donini et al.; 2013; Italy⁹	Cross-sectional; N = 100; None	Institutional care (nursing home residents)	Food consumption (staff assessed)	Nutritional status based on MNA: malnourished (< 17 points), at risk of malnutrition (17–23.5 points), well nourished (≥ 24 points)	Appetite by nutritional status (p = 0.000): Good Appetite by nutritional status (%): Normal = 83.3 At Risk = 45.6 Malnutrition = 39 Decreased Appetite by nutritional status (%) Normal = 16.7 At Risk = 39.2 Malnutrition = 41.6 Scarce Appetite by nutritional status (%) Normal = 0 At Risk = 15.2 Malnutrition = 19.4 Absent Appetite (0 for all 3 nutritional categories)
Hirose et al.; 2014; Japan⁴⁹	Cross-sectional; N = 1,098; None	Other (mixed community-dwelling, n = 511) and nursing home residents, n = 587)	MNA-SF Q1 (food intake question)	Nutritional status based on MNA-SF: malnourished (0-7 points), at risk of malnutrition (8-11 points), well nourished ($\geq 12-14$ points)	Appetite loss and malnutrition Adjusted OR (95% CI) = 16.45 (7.84, 34.54), p < 0.001 Adjusted for sex, age, community or nursing home residence, and geriatric conditions N (%) subjects with appetite loss, p < 0.001: MNA-SF score ≤ 7 = 123 (56.2) MNA-SF (8–11) = 148 (25.2) MNA-SF (12–14) = 21 (7.9)
van Steijn et al.; 2014; The Netherlands⁶⁹	Cross-sectional; N = 102; None	Other (outpatients with Parkinson's disease)	CNAQ	Risk of malnutrition based on MNA: malnourished (< 17 points), at risk of malnutrition (17–23.5 points), well nourished (≥ 24 points)	Increase in CNAQ score (per point) and odds of an unfavorable nutritional status Adjusted OR = 0.82 (95% CI 0.70, 0.95), p = 0.008 Adjusted for comorbidity, loneliness, disease stage, dependency, total hours assistance, swallowing or chewing disorders, falls, nausea, depressive symptoms, cognitive disturbances

BMI, body mass index; CES-D, Center for Epidemiologic Studies Depression Scale; CI, confidence interval; CNAQ, Council on Nutrition Appetite Questionnaire; ESAS, Edmonton Symptom Assessment System; FAACT, Functional Assessment of Anorexia/Cachexia Treatment; GDS, Geriatric Depression Scale; HR, hazard ratio; MDASI, MD Anderson Symptom Inventory; MNA, Mini Nutritional Assessment; MNA-SF, Mini Nutritional Assessment-Short Form; OR, odds ratio; Q, question; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; yr(s), year(s).

Table S5 Relationship between anorexia/appetite loss and mortality as reported in 18 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Hippisley-Cox et al.; 2017; UK (England) ¹⁶	Prospective longitudinal; N = 1,466,598; 5 yrs	Community-dwelling, aged ≥ 65 yrs	Mentioned in health record	1-yr all-cause mortality	Appetite loss in past 12 months and all-cause mortality in the derivation cohort Adjusted HR (95% CI): Women = 1.30 (1.21, 1.39) Men = 1.35 (1.24, 1.48) Adjusted for age, ethnicity, comorbidities, clinical values, hospitalizations, care home residence, smoking, alcohol use, corticosteroids, and antipsychotics
Cai et al.; 2020; UK (England) ¹⁷	Retrospective longitudinal; N = 4243; Median (IQR) follow-up time = 3.5 (1.5–6.4) yrs	Community-dwelling with depression, aged ≥ 65 yrs	Mentioned in health record	Risk of mortality	Lack of appetite and mortality risk Adjusted HR (95% CI) = 1.14 (1.04, 1.26), p = 0.008 Adjusted for age, gender, ethnicity, cohabiting status, IMD score, depression severity, physical illness, disability, ADL problems and cognitive problems, depressive symptoms and antipsychotic prescription
Landi et al.; 2012; Italy ¹⁸	Prospective longitudinal; N = 2787; 1 yr	Community-dwelling and receiving in-home care, aged ≥ 65 yrs	Food consumption (staff assessed)	Risk of mortality	Risk of mortality and anorexia Adjusted RR (95% CI) = 1.83 (1.45, 2.31) Adjusted for age, gender, living alone, physical and cognitive disability, depression, geriatric conditions, and comorbidities
	Prospective longitudinal; N = 1616; 1 yr	Subjects with cognitive impairment	Food consumption (staff assessed)	Risk of mortality	Risk of mortality and anorexia for subjects with cognitive impairment Adjusted RR (95% CI) = 1.55 (1.16, 2.02) Adjusted for age, gender, living alone, physical and cognitive disability, depression, geriatric conditions, and comorbidities
	Prospective longitudinal; N = 1171; 1 yr	Subjects without cognitive impairment	Food consumption (staff assessed)	Risk of mortality	Risk of mortality and anorexia for subjects without cognitive impairment Adjusted RR (95% CI) = 2.29 (1.53, 3.43) Adjusted for age, gender, living alone, physical and cognitive disability, depression, geriatric conditions, and comorbidities
	Prospective longitudinal; N = 185; 1 yr	Subjects without weight loss	Food consumption (staff assessed)	Risk of mortality	Risk of mortality and anorexia for subjects without weight loss Adjusted RR (95% CI) = 1.45 (1.01, 2.19) Adjusted for age, gender, living alone, physical and cognitive disability, depression geriatric conditions, and comorbidities
	Prospective longitudinal; N = 559; 1 yr	Subjects with weight loss	Food consumption (staff assessed)	Risk of mortality	Risk of mortality and anorexia for subjects with weight loss Adjusted RR (95% CI) = 1.98 (1.53, 2.54) Adjusted for age, gender, living alone, physical and cognitive disability, depression, geriatric conditions, and comorbidities
Huang et al.; 2014; Taiwan ¹⁹	Retrospective longitudinal; N = 1856; 8.76 yrs median	Community dwelling aged ≥ 65 yrs	Appetite question (subject-reported)	All-cause mortality	Association between poor appetite and risk of all-cause mortality Adjusted HR (95% CI) = 2.00 (1.55, 2.57) Adjusted for age, gender & education The HR was no longer significant when additional factors were included (i.e., physical activity, body mass index, vitality, cognitive impairment, chewing ability, appetite changed, dietary diversity score and general health)
St John and Montgomery;	Prospective longitudinal;	Community-dwelling, aged ≥ 65 yrs	CES-D	5-yr mortality	Poor appetite as a predictor of 5-yr mortality: Adjusted HR (95% CI) = 1.63 (1.31, 2.03) Adjusted for age, sex, education, and functional status

2014; Canada²¹	N = 1751; 5 yrs				Association of combined poor cognition and poor appetite as a predictor of 5-yr mortality: Adjusted HR (95% CI) = 1.50 (1.19, 1.86) Adjusted for age, sex, education, and functional status
Wijnhoven et al.; 2012; The Netherlands²²	Retrospective longitudinal; N = 1687; 6 yrs	Community-dwelling, aged ≥ 65 yrs, Longitudinal Aging Study Amsterdam (LASA) cohort	CES-D	6-yr mortality	Poor appetite last week (%): Survived = 11.6 Died = 16.8, p = 0.006
Huang et al.; 2018; Taiwan²⁰	Retrospective longitudinal; N = 1687; 15 yrs	LASA Cohort	CES-D	15-yr mortality	Poor appetite last week (%): Male: Survived = 5.3 vs Died = 10.7, p = 0.023 Female: Survived = 12.4 vs Died = 20.2, p = 0.004
	Retrospective longitudinal; N = 471; Follow-up from date of interview to death or Dec 31 2008	Community-dwelling, aged ≥ 65 yrs, males	MNA-SF Q1 (food intake question)	Death	Males: Appetite status, adjusted HR (95% CI): Fair = 0.34 (0.18, 0.63) Good = 0.23 (0.13, 0.42) Poor = 1 (ref), p = 0.0002 Gender-specific model adjusted for appetite, eating with others, dietary diversity score, and body mass index
Fournier et al.; 2016; France²³	Retrospective longitudinal; N = 474; Follow-up from date of interview to death or Dec 31 2008	Community-dwelling, aged ≥ 65 yrs, females	MNA-SF Q1 (food intake question)	Death	Females: Appetite status, adjusted HR (95% CI): Fair = 0.96 (0.45, 2.07) Good = 0.90 (0.46, 1.77) Poor = 1 (ref), p = 0.94 Gender-specific adjusted model: adjusted for frequency of cooking, dietary diversity score, and body mass index
	Prospective longitudinal; N = 108; 5 yrs	Community-dwelling EORTC QLQ-C30 response: 3 m vs baseline	EORTC QLQ-C30	5-yr relative survival rate	Decline >10 points in appetite from baseline to 3 month and 5 yr survival Adjusted HR (95% CI) = 4.7 (1.4, 15.6); p = 0.013 Adjusted for sex, age category, tumor stage, and receipt of chemotherapy or radiotherapy
Engelheart et al.; 2021; Sweden²⁴	Prospective longitudinal; N = 108; Annual for 3 yrs	EORTC QLQ-C30 response 6m vs baseline	EORTC QLQ-C30	5-yr relative survival rate	Decline >10 points in appetite from baseline to 6 month and 5 yr survival Adjusted HR (95% CI) = 3.7 (1.6, 8.4), p = 0.002 Adjusted for sex, age category, tumor stage, and receipt of chemotherapy or radiotherapy.
		Community-dwelling in need of care at home, aged ≥ 65 yrs	Appetite question (subject-reported)	3-yr survival	Difference between appetite score at baseline between survivors and non-survivors Appetite as measured by VAS, (0-10): Survivors (n = 35) mean = 6.70 Non-survivors (n = 20) mean = 4.7, p < 0.05, by Mann-Whitney U test

Cox et al.; 2020; England²⁵	Retrospective longitudinal; N = 296; 6 months	Inpatient, aged ≥ 70 yrs	SNAQ Simplified	Mortality within 6 months and SNAQ (per point decrease in score)	Mortality within 6 months and SNAQ (per point decrease in score) Adjusted OR (95% CI) = 1.22 (1.07, 1.39), p = 0.002 Adjusted for length of stay, comorbidity index and gender
				Mortality within 6 months for SNAQ < 14 vs SNAQ ≥ 14	Mortality within 6 months for SNAQ < 14 vs SNAQ ≥ 14 Adjusted OR = 2.62 (1.30, 5.27), p = 0.007 Adjusted for length of stay, comorbidity index and gender
Pilgrim et al.; 2016; UK (England)²⁶	Prospective longitudinal; N = 178; 6 months	Inpatient (geriatric ward), “elderly” female	SNAQ Simplified	Death by time of follow-up	Mortality within 6-months and association with poor appetite (SNAQ <14) Adjusted HR (95% CI) = 2.29 (1.12, 4.68), p = 0.023 (n = 173) Adjusted for hospital length of stay and number of comorbidities
Hofer et al.; 2018; Austria²⁷	Prospective longitudinal; N = 149; 4 yrs	Inpatient, aged > 67 yrs	EORTC QLQ-C30	4-yr overall survival	Univariate analysis of overall survival and appetite loss Unadjusted HR (95% CI) = 2.21 (1.36, 3.58), p < 0.001 Loss of appetite was not assessed in the multivariate analysis
Taniguchi et al.; 2019; Japan²⁸	Retrospective longitudinal; N = 139; 2 yrs	Inpatient (underwent TAVI)	Food consumption (staff assessed)	1-yr mortality	1-yr mortality, all subjects, n (%) = 6 (4.3) 1-yr mortality, good appetite vs less appetite, n (%) = 4 (3.8) vs 2 (5.9), p = 0.46
				2-yr mortality	2-year mortality, all subjects, n (%) = 10 (7.2) 2-year mortality, good appetite vs less appetite, n (%) = 4 (3.8) vs 6 (17.6), p = 0.01
Rawle et al.; 2020; UK (England)²⁹	Retrospective longitudinal; N = 134; Death or discharge	Inpatient (Hospitalized with COVID-19, from community or care home), aged ≥ 80 yrs	Mentioned in health record	Death during COVID-19 hospitalization	Anorexia as presenting symptom and mortality by residential status Unadjusted OR (95% CI): Total anorexia (n = 134) = 3.20 (1.21, 10.09), p = 0.028 Community dwelling anorexia (n = 70) = 1.59 (0.41, 7.81), p = 0.527 Care home anorexia (n = 64) = 6.15 (1.51, 41.83), p = 0.024 Mortality of COVID-19 cases with anorexia from care home (n = 64) Adjusted OR (95% CI) = 7.78 (1.53, 64.14), p = 0.026 Multivariable regression model with backward stepwise elimination until only statistically significant (p < 0.05) variables remained in the model.
Schmidt et al.; 2014; Germany³⁰	Prospective longitudinal; N = 126; 3 and 12 months	Inpatient scheduled for gastrointestinal, genitourinary, or gynecological surgery, aged ≥ 65 yrs	EORTC QLQ-C30	1-yr mortality risk per point (out of 100) of appetite loss	1-yr mortality risk per point (out of 100) of appetite loss Adjusted OR (95% CI) = 1.02 (1.00, 1.03), p = 0.011 Adjusted for age, gender and distant metastases
Landi et al.; 2013; Italy⁸	Prospective longitudinal; N = 1904 1490 with 1 yr data; 1 yr	Institutional care (nursing home), aged ≥ 65 yrs	Food consumption (staff assessed)	1-yr mortality	Mortality occurred in 271 (18.2%) subjects; 33.9% with anorexia died vs 15.9% without anorexia (p < 0.001) 1-yr mortality for subjects with vs without anorexia: Adjusted HR (95% CI) = 2.26 (2.14, 2.38) Adjusted for age, sex, functional and cognitive impairment, depression, geriatric conditions, renal failure, number of drugs, proton pump inhibitors and opioids
Mikami et al.; 2019; Japan³¹	Prospective longitudinal;	Institutional care (nursing home)	SNAQ Simplified CNAQ	1-yr mortality	Association of appetite assessment tools with mortality at 1 yr Adjusted HR (95% CI): CNAQ score = 0.91 (0.86, 0.97), p = 0.004

Kanamori et al.; 2012; Japan³²	N = 254; 1 yr Prospective longitudinal; N = 72; 3 yrs (trial end or death)	Other (outpatient receiving hemodialysis, ≥ 65 yr old)	Appetite question (subject-reported)	All-cause death	SNAQ score = 0.83 (0.74, 0.92), p = 0.001 SNAQ-Japanese Elderly score = 0.84 (0.76, 0.92), p < 0.001 Adjusted for age, sex, medical history, Barthel index, clinical dementia rating, MNA-SF Median Appetite VAS score (0-100) for older subjects was 76.5 Mortality (Kaplan–Meier analysis) and appetite: cut off point > 75 vs ≤ 74, p = 0.683 Association between mortality and appetite in older cohort: Adjusted RR (95% CI): 1.05 (1.01, 1.10), p = 0.025 Adjusted for age, gender, duration of hemodialysis, laboratory data and comorbidities
--	---	--	---	-----------------	--

ADL, activities of daily living; CES-D, Center for Epidemiological Studies Depression Scale; CI, confidence interval; CNAQ, Council on Nutrition Appetite Questionnaire; EORTC QLQ-C30, European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire; HR, hazard ratio; IQR, interquartile range; IMD, index of multiple deprivation; MNA-SF, Mini Nutritional Assessment-Short Form; OR, odds ratio; RR, relative risk; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; TAVI, transcatheter aortic valve implantation; VAS, visual analogue scale; yr, year.

Table S6 Relationship between anorexia/appetite loss and sarcopenia indicators as reported in 7 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal studies					
Pilgrim et al.; 2016; UK²⁶	Prospective longitudinal; N = 178; 6 months	Inpatient (all women defined as "elderly")	SNAQ Simplified	Grip strength at 6 months	Grip strength and association with poor appetite (SNAQ < 14) Adjusted regression coefficient (95% CI) = -1.83 (-4.01, 0.34), p = 0.098 Adjusted for length of stay, time from discharge to follow-up, and number of comorbidities
Cox et al.; 2021; UK³⁵	Prospective longitudinal (baseline data reported); N = 114 53 cases 61 controls; None	Community-dwelling subjects with data regarding markers of sarcopenia (all female)	SNAQ Simplified	Chair stand time	Mean (SD) chair stand time (s): Cases SNAQ Simplified <14 = 11.03 (4.98) Controls SNAQ Simplified >14 = 9.26 (2.51), p=0.02 Among individuals with reduced muscle strength, a larger percentage were cases than controls, p=0.02
				Reduced muscle mass	Reduced muscle mass (<0.6 kg/m ²), n: Cases = 33 Controls n = 28, p = 0.6 Mean (SD) muscle mass (ALM/height ²): Cases = 5.82 (0.69) Controls = 6.02 (0.80), p = 0.6
Senoo et al; 2020; Japan³⁶	Prospective longitudinal; N = 34; 3 years	Community-dwelling, Poor appetite (+)/LMF (-) Subjects aged ≥ 75 yrs	SNAQ Simplified	Sarcopenia during 3-yr follow-up	Incidence rate and adjusted HR for sarcopenia during the 3-yr follow-up according to appetite and masticatory function Unadjusted rate per 1000 person years = 79.5, cases (n = 7), person years of follow-up = 88 Adjusted HR (95% CI) = 2.0 (0.7, 5.8), p = 0.21 vs poor appetite (-)/LMF (-) Adjusted for interaction between poor appetite and LMF, age, depressive symptoms, cognitive impairment, and low BMI
	Prospective longitudinal; N = 23; 3 years	Community-dwelling, Poor appetite (+)/LMF (+) Subjects aged ≥ 75 yrs	SNAQ Simplified	Sarcopenia during 3-yr follow-up	Incidence rate and adj HR for sarcopenia during the 3-yr follow-up according to appetite and masticatory function Unadjusted rate per 1000 person years = 163.6, cases (n = 9), person years of follow-up = 55 Adjusted HR (95% CI) = 4.4 (1.6, 12.2), p = 0.01 vs poor appetite (-)/LMF (-) Adjusted for interaction between poor appetite and LMF, age, depressive symptoms, cognitive impairment, and low BMI
van Dronkelaar et al; 2019; The Netherlands⁴²	Prospective longitudinal; N = 400; 1 and 3 months post-hospital discharge	Inpatient (acute) aged ≥70 yrs (longitudinal cohort)	SNAQ Short-appetite loss question	Muscle strength	Longitudinal association of decreased appetite (vs no decreased appetite) with muscle strength as a marker for sarcopenia Across all time points: Adjusted β (95% CI) = -1.09 (-1.72, -0.46), p = 0.001 At 3 months: Adjusted β (95% CI) = -2.97 (-4.35; -1.58), p < 0.001 Adjusted for age, gender, cognitive impairment, fatigue, depression, comorbidity, and skeletal muscle mass

				Skeletal muscle mass	<p>Longitudinal association of decreased appetite (vs no decreased appetite) with skeletal muscle mass as a marker for sarcopenia</p> <p>Across all time points: Adjusted β (95% CI) = -0.02 (-0.46, 0.42), $p = 0.920$</p> <p>At 3 months: Adjusted β (95% CI) = -0.19 (-0.81, 1.18), $p = 0.713$</p> <p>Adjusted for age, gender, cognitive impairment, fatigue, depression, comorbidity</p>
				Mobility	<p>Longitudinal association of decreased appetite (vs no decreased appetite) with mobility as a marker for sarcopenia</p> <p>Across all time points: Adjusted β (95% CI) = -3.89 (-6.06, -1.73), $p < 0.001$</p> <p>At 3 months: Adjusted β (95% CI): 1.18 (-3.64, 5.99), $p = 0.632$</p> <p>Adjusted for age, gender, cognitive impairment, fatigue, depression, comorbidity, and fear of falling</p>
				Physical performance	<p>Longitudinal association of decreased appetite (vs no decreased appetite) with physical performance as a marker for sarcopenia</p> <p>Across all time points: Adjusted β (95% CI) = -0.71 (-1.08, -0.33), $p < 0.001$</p> <p>At 3 months: Adjusted β (95% CI) = -0.10 (-0.93; 0.73), $p = 0.815$</p> <p>Adjusted for age, gender, cognitive impairment, fatigue, depression, comorbidity, and fear of falling</p>

Cross-sectional

Landi et al; 2013; Italy⁶⁴	Cross-sectional; N = 354; None	Community-dwelling subjects in baseline assessment of the iSIRENTE study	Food consumption and appetite questions (subject-reported)	Risk of sarcopenia	<p>Association between anorexia (vs no anorexia) and sarcopenia</p> <p>Main analysis (all subjects): Adjusted OR (95% CI) = 1.88 (1.01, 3.51)</p> <p>Sub-group analyses: Excluding 20 (5.6 %) subjects with significant weight loss: Adjusted OR (95% CI) = 1.97 (1.09, 3.58)</p> <p>Excluding 43 (12.1 %) subjects with BMI <20 kg/m²: Adjusted OR (95% CI) = 1.89 (1.01, 3.55)</p> <p>Adjusted for age, gender, functional and cognitive impairment, physical activity, urinary incontinence, comorbidity, congestive heart failure, COPD, depression, anticholinergic drugs, TNF-α plasma levels</p>
Reijnierse et al; 2015; The Netherlands⁶⁵	Cross-sectional; N = 185 None	Community-dwelling, all subjects, mean age = 82 yrs	SNAQ Short-Appetite loss question	Relative muscle mass	<p>Association between loss of appetite and relative muscle mass as a standardized (Z) gender-specific diagnostic measure of sarcopenia (n = 123)</p> <p>Z lean mass percentage: Adjusted $\beta = -0.56$, SE = 0.17, $p = 0.001$</p> <p>Z ALM percentage: Adjusted $\beta = -0.29$, SE = 0.19, $p = 0.130$</p> <p>Both models adjusted for age and body mass</p>
				Absolute muscle mass	<p>Association between loss of appetite and absolute muscle mass as a standardized (Z) gender-specific diagnostic measure of sarcopenia (n = 123)</p> <p>Z total lean mass (kg): $\beta = -0.54$, SE = 0.18, $p = 0.003$</p>

					Z ALM/height (kg/m ²): β = -0.37, SE = 0.18, p = 0.036 Both models adjusted for age and fat mass
				Muscle strength	Association between loss of appetite and absolute muscle strength as a standardized (Z) gender-specific diagnostic measure of sarcopenia (n = 180) Z hand-grip strength (kg): β = -0.31, SE = 0.16, p = 0.051 Adjusted for age, body mass and height
				Physical performance	Association between loss of appetite and physical performance as a standardized (Z) gender-specific diagnostic measure of sarcopenia (n = 156) Z walking speed (m/s): β = -0.37, SE = 0.19, p = 0.052 Adjusted for age and height
Tsutsumimoto et al; 2020; Japan⁵⁶	Cross-sectional; N = 9496 None	Community-dwelling, all subjects, aged ≥65 yrs,	SNAQ Simplified	Risk of sarcopenia	Multiple logistic regression analysis of association between anorexia of aging and sarcopenia Adjusted OR (95% CI) = 1.42 (1.06, 1.92), p = 0.020 Adjusted for socio-demographic factors, medical conditions, lifestyle factors, neuropsychological factors, and nutritional status

ALM, appendicular lean mass; BMI, body mass index; CI, confidence interval; COPD, chronic obstructive pulmonary disease; HR, hazard ratio; LMF, low masticatory function; OR, odds ratio; SD, standard deviation; SE, standard error; SNAQ Short, Short Nutritional Assessment Questionnaire; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; yrs, years.

Table S7 Relationship between anorexia/appetite loss and functional status as reported in 6 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/ appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal studies					
Kirkhus et al; 2019; Norway ⁴⁶	Prospective Longitudinal; N = 288; 6 months	Other (outpatients with cancer aged ≥ 70 yrs)	EORTC QLQ-C30	Subject-reported physical function	Appetite loss (higher score is worse) and EORTC QLQ-C30 subject-reported physical function (higher score is better) at follow-up Adj regression coefficient (95% CI) = -0.12 (-0.16, -0.09), p < 0.001 Adjusted for age, gender, ECOG PS, cancer type, disease stage, cancer treatment, and EORTC QLQ-C30 symptom scores
van Grootven et al; 2020; Belgium ⁴⁵	Prospective Longitudinal; N = 189; Not reported, admission date to discharge date	Inpatient (hospitalized subjects, aged ≥ 75 yrs)	Appetite question (subject-reported)	Hospitalization- associated functional decline (Katz Index of ADL)	Loss of appetite and functional decline Adjusted OR (95% CI): = 2.14 (1.08, 4.22) vs no appetite loss Variables included in adjustment not reported
Mendelson et al; 2018; Israel ⁴⁴	Retrospective longitudinal; N = 56; Days between admission and discharge, mean (SD) FIM >70 = 21.3 (9.5) day	Inpatients with osteoporotic hip fracture and FIM > 70 at admission	SNAQ Short- appetite loss question	FIM ≥ 90 at discharge	Subjects, n (%) with appetite loss as reported on the SNAQ (Short), by FIM category at discharge: FIM ≥90 = 15 (40.5) out of 37 subjects FIM <90 (and >70) = 13 (68.4) out of 19 subjects, p = 0.048
Nakatsu et al ^a ; 2015; Japan ⁶⁶	Cross-sectional; N = 84; None	Community- dwelling, aged ≥ 65 yrs	SNAQ Simplified	Physical performance	Pearson correlations between SNAQ and physical performance measures Walking speed test: r = 0.24, p < 0.05 Chair stand test: r = -0.25, p < 0.05 Hand-grip strength test: r = 0.19, p = 0.08 TUG: r = -0.28, p < 0.05
Dent et al; 2015; Australia ⁴³	Prospective Longitudinal; N = 172 (165 with functional change data); Until discharge or death	Inpatient, aged ≥ 70 yrs, admitted to Geriatric Evaluation and Management Unit	SNAQ Simplified	Functional change (Barthel Index)	Change in functional status (between admission and discharge) and SNAQ (Simplified) score Adjusted regression coefficient (95% CI) = 0.44 (-0.30, 1.16), p = 0.237 Adjusted for age, gender, cognitive impairment, baseline function, Charlson's Comorbidity Index, lives alone, depression, and inflammation
Cross-sectional studies					
Donini et al; 2011; Italy ⁶¹	Cross-sectional; N = 527; None	Other (mixed community, nursing home, rehabilitation care, acute care) all subjects, aged ≥ 65 yrs	Food consumption (staff-assessed)	Functional status (IADL score)	Mean (SD) functional status as measured by IADL score: With anorexia = 4.2 (5.0) Without anorexia = 7.9 (6.0), p < 0.05

^a Authors measured walking speed, chair stand time, hand-grip strength, and TUG test, and characterized these outcomes as measures of physical performance and not sarcopenia; however, other studies also used these measures to assess sarcopenia.

ADL, activities of daily living; CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status; EORTC QLQ-C30, European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire; FIM, Functional Independence Measure; IADL, Instrumental Activities of Daily Living; OR, odds ratio; SD, standard deviation; SNAQ Short, Short Nutritional Assessment Questionnaire; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; TUG, timed up and go; yrs, years.

Table S8 Relationship between anorexia/appetite loss and increased care as reported in 6 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/ appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal studies					
Sheppard et al; 2013; US ⁴⁰	Prospective longitudinal; N = 999; 8.5 yrs	Community-dwelling, aged ≥ 65 yrs	PROMIS	Nursing home	N (%) with poor appetite: With nursing home admission within 8.5 yrs = 22 (29.3) Without nursing home admission within 8.5 yrs = 150 (16.2), p = 0.004 Symptom burden score (includes appetite) as a factor predicting time to nursing home admission (n = 75): Adjusted HR (95% CI) = 1.10 (1.00, 1.20), p = 0.051 Adjusted for number of comorbidities, race, sex, and age
Hsu et al; 2018; Taiwan ³⁸	Retrospective longitudinal; N = 1986 4 yrs;	Community-dwelling, aged ≥ 70 yrs	CES-D	Receipt of formal or informal long-term care	Poor appetite and receipt of increased care (n = 1883) Adjusted OR (95% CI) = 1.42 (1.05, 1.90), p = 0.021 Adjusted for age, sex, education, self-rated health, calf circumference, number of comorbidities, multi-medication, vision/hearing difficulties, emergency department use, living arrangement, social supports, economic status, plus 7 functional status items and 9 mental-health items
Salminen et al; 2018; Finland ³⁹	Prospective longitudinal; N = 1032; 22 yrs	Community-dwelling, 1920 birth cohort, aged ≥ 70 yrs, assessed in 1991	Appetite question (subject-reported)	Entry to nursing home or sheltered housing	Loss of appetite as a predictive factor for institutionalization (n = 698) Adjusted regression coefficient (SE) = -0.002 (0.29), p = 0.995 Assumed adjusted for socio-demographic factors, health, psychosocial and physical status, need for help, and health behavior
Pilgrim et al; 2016; UK (England) ²⁶	Prospective longitudinal; N = 178; 6 months	Inpatient, "Elderly" women, hospitalized in geriatric ward	SNAQ Simplified	Moved into a rest or nursing home by follow- up	Move to a rest/nursing home and association with poor appetite (SNAQ Simplified < 14) Adjusted OR (95% CI) = 0.87 (0.27, 2.80), p = 0.821 Adjusted for length of stay, time from discharge to follow-up and number of comorbidities
Dent et al; 2015; Australia ⁴³	Prospective longitudinal; N = 172	Inpatient, aged ≥ 70 yrs, admitted to Geriatric Evaluation and Management Unit	SNAQ Simplified	Discharged to higher level of care (includes death)	Discharge to higher-level care and SNAQ Simplified score Adjusted OR (95% CI) = 0.98 (0.89, 1.08), p = 0.641 Adjusted for age, gender, cognitive impairment, baseline function, Charlson's Comorbidity Index, and lives alone
Cross-sectional					
Donini et al; 2011; Italy ⁶¹	Cross-sectional; N = 527; None	Other (mixed community-dwelling, nursing home, rehabilitation care, acute care), all subjects, aged ≥ 65 yrs	Food consumption (staff-assessed)	Residential accommodation type	Percentage of pts with anorexia, by gender and accommodation type Rehabilitation/acute geriatric ward: Male = 26.7% Female = 33.3% Nursing home: Male = 27.2% Female = 34.1% Free living: Male = 11.3%, Female = 3.38%, p < 0.05 vs other settings (for each sex)

CES -D, Center for Epidemiologic Studies Depression Scale; CI, confidence interval; HR, hazard ratio; OR, odds ratio; PROMIS, Patient-Reported Outcomes Measurement Information System; SE, standard error; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; yrs, years.

Table S9 Relationship between anorexia/appetite loss and hospitalization as reported in 4 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal studies					
Salanitro et al; 2012; US ⁴¹	Prospective longitudinal; N = 980; 8.5 yrs	Community-dwelling, aged ≥ 65 yrs, Medicare beneficiaries	Appetite question (subject-reported)	Hospital utilization: time to first hospitalization or emergency department visit	Poor appetite as a component of symptom burden and association with time to first hospital utilization or emergency department visit HR (95% CI) = 1.09 (1.04, 1.14), p < 0.001. P-value for poor appetite alone, p = 0.417 Adjusted for age, race, gender, comorbidity count, location of residence, availability of friends/family, BMI, and smoking status
				Time to first hospital admission	Poor appetite as a component of symptom burden and association with time to first hospital admission HR (95% CI) = 1.08 (1.04, 1.13), p < 0.001. P-value for poor appetite alone, p = 0.529 Adjusted for age, race, gender, comorbidity count, location of residence, availability of friends/family, BMI, and smoking status
Pilgrim et al; 2016; UK (England) ²⁶	Prospective longitudinal; N = 178; 6 months	Inpatient, "Elderly" women, hospitalized in geriatric ward	SNAQ Simplified	Hospital LOS	Hospitalization length of stay and association with poor appetite (SNAQ Simplified < 14) Adjusted regression coefficient (95% CI) = 0.26 (-0.03, 0.54), p = 0.075 Adjusted for number of comorbidities
				Readmission (re-admitted to hospital by time of follow-up)	Readmission and association with poor appetite (SNAQ Simplified < 14) Adjusted HR (95% CI) = 0.99 (0.63, 1.56), p = 0.966 Adjusted for LOS and number of comorbidities
Dent et al; 2015; Australia ⁴³	Prospective longitudinal; N = 172	Inpatients, aged ≥ 70 yrs, admitted to Geriatric Evaluation and Management Unit	SNAQ Simplified	Hospital LOS	Hospital LOS and SNAQ Simplified (n = 165 with data) Adjusted regression coefficient (95% CI) = 0.004 (-0.010, 0.001), p = 0.590 Adjusted for age, gender, cognitive impairment risk, baseline function, Charlson's Comorbidity Index, lives alone, depression, and inflammation
Taniguchi et al; 2019; Japan ²⁸	Retrospective Longitudinal; N = 139; 2 yrs	Inpatient followed by community or institution upon discharge, all subjects who underwent TAVI	Food consumption (staff-assessed)	Hospitalization of acute decompensated heart failure	Hospitalization, all subjects: 1-yr, n (%) = 7 (5.0) 2-yr, n (%) = 8 (5.8) Hospitalization, good appetite vs less appetite, n (%): 1-yr: 2 (1.9) vs 5 (14.7), p = 0.01 2-yr: 2 (1.9) vs 6 (17.6), p < 0.01

BMI, body mass index; CI, confidence interval; HR, hazard ratio; LOS, length of stay; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; TAVI, transcatheter aortic valve implantation; yrs, years.

Table S10 Relationship between anorexia/appetite loss and falls as reported in 3 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/ appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Cross-sectional					
Arkkukangas et al; 2020; Sweden⁵⁵	Cross-sectional; N = 13,151 respondents (3385 women with fall and appetite data); None	Mixed (community- dwelling and nursing home), Women aged ≥ 70 yrs with data on falls and appetite	Appetite question (subject-reported)	Fall-related injury in last 12 months	Odds of fall-related injury and poor appetite in women Adjusted OR (95% CI) = 1.81 (1.30, 2.51), p = 0.000 Data for men not reported
Fonad et al; 2015; Sweden⁶²	Cross-sectional; N = 1193 None	Community- dwelling, aged ≥ 75 yrs	Appetite question (subject-reported)	Falls in past 12 months	Appetite loss during the previous 6 months and odds of self-reported fall in past 12 months Adjusted OR (95% CI) = 1.06 (0.65, 1.70), p = 0.827; variables included in adjustment not reported Unadjusted OR (95% CI) = 2.22 (1.61, 3.05), p-value not reported
Kim et al; 2019; Japan⁶⁰	Cross-sectional N = 265; None	Community- dwelling, aged > 70 yrs	CNAQ	Cognitive frailty-related falls	Association between appetite (per 1 point on the CNAQ) and falls related to cognitive frailty (defined as MMSE score between 19 and 26 and physical frailty) Adjusted OR (95% CI) = 0.70 (0.57, 0.87), p < 0.05 Adjusted for age, gender, chronic conditions, calf circumference, physical function, and dementia

CI, confidence interval; CNAQ, Council on Nutrition Appetite Questionnaire; MMSE, Mini-Mental State Exam; OR, odds ratio; yrs, years.

Table S11 Relationship between anorexia/appetite loss and health-related quality of life as reported in 3 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal					
Kirkhus et al; 2019; Norway ⁴⁶	Prospective longitudinal; N = 288; 6 months	Other (outpatient) all subjects, aged ≥ 70 yrs with cancer	EORTC QLQ-C30	Global QoL	Association between appetite loss (higher score is worse) and global QoL (higher score is better) at follow-up Adjusted regression coefficient (95% CI) = -0.16 (-0.20, -0.12), p < 0.001 Adjusted for age, gender, ECOG PS, cancer type, disease stage, treatment, and symptom scores
Cross-sectional					
Pisu et al; 2018; US ⁵⁸	Cross-sectional; N = 537; None	Community-dwelling, aged ≥ 65 yrs, with cancer; validation data set	MDASI	SF-12 Physical Component	Lack of appetite and association with SF-12 Physical Component score, proportion of variance explained Adjusted R ² (95% CI) = 0.08 (0.04, 0.14) Factors were considered to be strongly associated with HRQoL if adjusted R ² ≥ 0.13 Covariates adjusted for were not reported
				SF-12 Mental Component	Lack of appetite and association with SF-12 Mental Component score, proportion of variance explained Adjusted R ² (95% CI) = 0.16 (0.11, 0.25) Factors were considered to be strongly associated with HRQoL if adjusted R ² ≥ 0.13 Covariates adjusted for were not reported
Acar Tek and Karaçil-Ermumcu et al; 2018; Turkey ⁶³	Cross-sectional; N = 407; None	Community-dwelling, mean (SD) age = 71.7 (6.54) yrs	SNAQ Simplified	SF-36 Physical Component	Association between SNAQ Simplified and SF-36 Physical Component score: Correlation: r = 0.46, p = 0.000 Adjusted regression coefficient B = 2.21, β = 0.32, SE = 0.37, p = 0.000 Adjusted for years of education, number of medications, BMI, MNA-SF
				SF-36 Mental Component	Association between SNAQ (Simplified) and SF-36 Mental Component score: Correlation: r = 0.40, p = 0.000. Adjusted regression coefficient: B = 1.48, β = 0.24, SE = 0.31, p = 0.000 Adjusted for number of medications and MNA-SF

BMI, body mass index; CI, confidence interval; ECOG PS, Eastern Cooperative Oncology Group performance status; EORTC QLQ-C30, European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire; HRQoL, health-related quality of life; MDASI, MD Anderson Symptom Inventory; MNA-SF, Mini Nutritional Assessment-Short Form; QoL, quality of life; SD, standard deviation; SE, standard error; SF, Short Form; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; yrs, years.

Table S12 Relationship between anorexia/appetite loss and cognition, depression, or disability as reported in 5 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/ appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Cognition					
Donini et al; 2011; Italy⁶¹	Cross-sectional; N = 527; None	Other (mixed community-dwelling, nursing home, rehabilitation care, acute care) all subjects, aged ≥65 yrs	Food consumption (staff-assessed)	Cognition status	Association of anorexia with cognitive status as measured by mean (SD) MMSE score: With anorexia = 18.5 (9.0) Without anorexia = 23.8 (5.0), p < 0.05
Kim et al; 2019; Japan⁶⁰	Cross-sectional; N = 265; None	Community-dwelling, aged > 70 yrs,	CNAQ	Risk of cognitive frailty	Association between appetite (per 1 point on the CNAQ) and cognitive frailty (defined as MMSE score between 19 and 26 and physically frailty) Adjusted OR (95% CI) = 0.74 (0.63, 0.86), p= 0.001 Adjusted for age, gender, chronic conditions, calf circumference, physical function, and dementia
Depression					
Donini et al; 2011; Italy⁶¹	Cross-sectional; N = 527; None	Other (mixed community-dwelling, nursing home, rehabilitation care, acute care) all subjects, aged ≥65 yrs	Food consumption (staff-assessed)	Depression score	Mean (SD) Geriatric Depression Scale score: With anorexia = 6.7 (5.0) Without anorexia = 4.7 (4.0), p < 0.05 Mean (SD) Cornell depression score: With anorexia = 12.1 (7.0) Without anorexia = 8.7 (7.0), p < 0.05
Nakatsu et al; 2015; Japan⁶⁶	Cross-sectional; N = 84; None	Community-dwelling, aged ≥ 65 yrs	SNAQ Simplified	Depression score	Pearson correlation between SNAQ Simplified and depression score Geriatric depression score: r = -0.43, p < 0.001
Disability					
Martinez-Reig et al; 2014; Spain³⁷	Prospective longitudinal; N = 600; 18 months after baseline visit	Community-dwelling, all subjects aged ≥ 70 yrs	MNA-SF Q1 (food intake question)	Incident disability in BADL	Association between anorexia and incident disability in BADL Adjusted OR (95% CI) = 1.65 (0.94, 2.87) Adjusted for age, sex, previous disability in BADL, comorbidity burden, depression risk, cognitive impairment, and frailty status
Tsutsumimoto et al; 2018; Japan⁷	Prospective longitudinal; N = 4393; 2 years	Community-dwelling, all subjects aged ≥ 70 yrs	SNAQ Simplified	Disability requiring escalated care within 2 yrs	Disability occurred in 270 (6.1%) subjects: With anorexia = 10.7% Without anorexia = 5.6%, p < 0.001 Adjusted HR (95% CI) = 1.43 (1.04, 1.95), p = 0.026. Adjusted for covariates excluding frailty status Adjusted HR (95% CI) = 1.33 (0.96, 1.80), p = 0.093. Adjusted for covariates including frailty status (no longer significant)

BADL, basic activities of daily living; CNAQ, Council on Nutrition Appetite Questionnaire; CI, confidence interval; HR, hazard ratio; MMSE, Mini-Mental State Exam; MNA-SF, Mini Nutritional Assessment-Short Form; OR, odds ratio; SD, standard deviation; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; yrs, years.

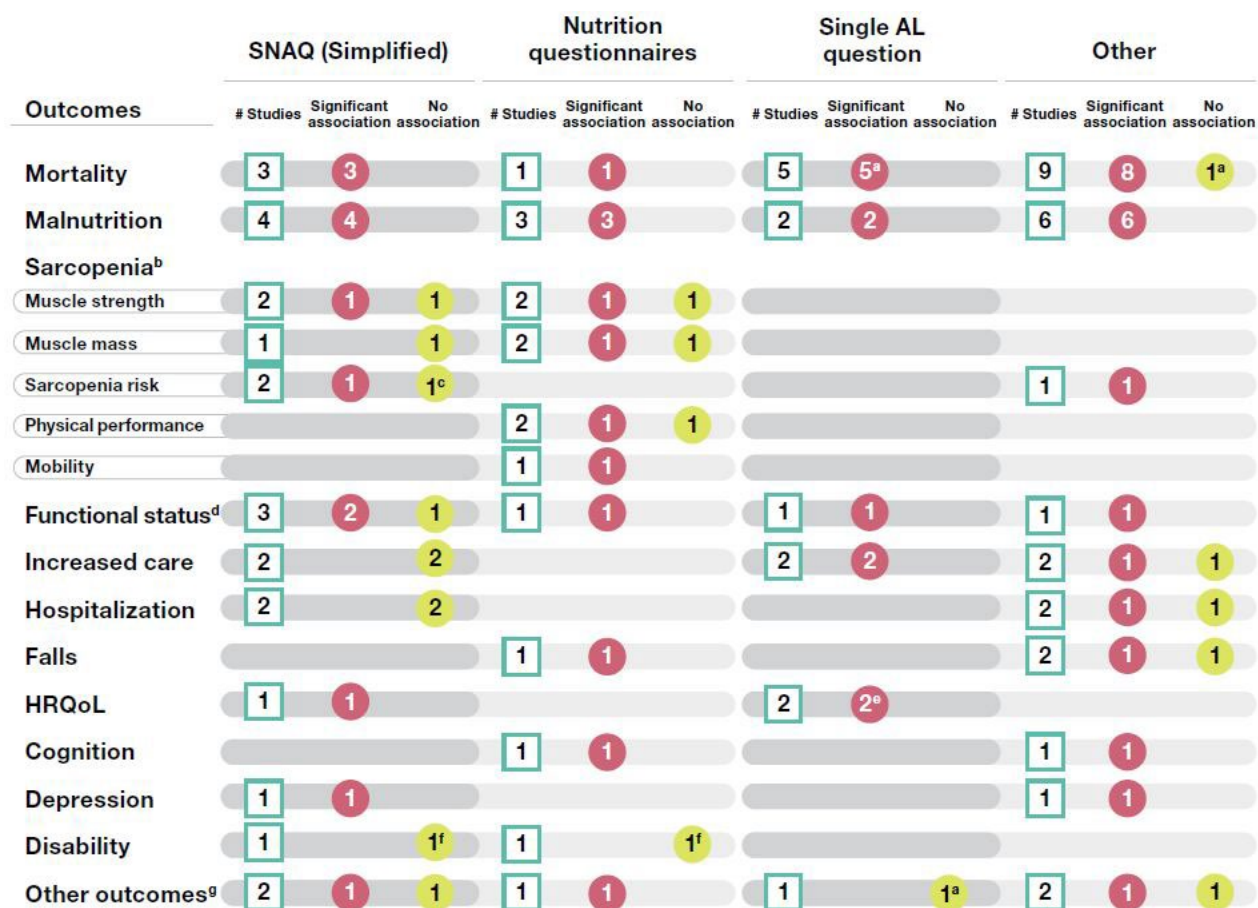
Table S13 Relationship between anorexia/appetite loss and other outcomes as reported in 6 identified studies

Author; year; country	Study design; sample size; follow-up	Setting/cohort	Anorexia/appetite loss assessment	Outcome measure	Outcome results (association with anorexia or appetite loss)
Longitudinal studies					
Pilgrim et al; 2016; UK (England) ²⁶	Prospective longitudinal; N = 178; 6 months	Inpatient, all “elderly” women, hospitalized in geriatric wards	SNAQ Simplified	Weight loss > 5% (at 6-month follow-up)	Weight loss > 5% and association with poor appetite (SNAQ Simplified < 14) Adjusted OR (95% CI) = 1.11 (0.47, 2.63), p = 0.805 Adjusted for length of stay and number of comorbidities
				Hospital-acquired infection	Hospital-acquired infection and association with poor appetite (SNAQ Simplified < 14) Adjusted OR (95% CI) = 3.53 (1.48, 8.41), p = 0.004 Adjusted for length of stay and number of comorbidities
				MACCE (at 1 and 2 yrs)	MACCE at 2 yrs, adjusted HR (95% CI) = 5.26 (1.66, 16.71), p < 0.01 All subjects: 1 yr, n (%) = 11 (7.9) 2 yrs, n (%) = 14 (10.1) Good appetite: 1 yr, n (%) = 5 (4.8); 2 yrs, n (%) = 6 (5.7) Less appetite: 1 yr, n (%) = 6 (17.6), p = 0.03 2 yrs, n (%) = 8 (23.5), p < 0.01
Taniguchi et al; 2019; Japan ²⁸	Retrospective longitudinal; N = 139; 2 years	Inpatient followed by community or institution upon discharge, all subjects who underwent TAVI	Food consumption (staff-assessed)	Life-threatening stroke (at 1 and 2 yrs)	Life-threatening stroke All subjects: 1 yr, n (%) = 2 (1.4) 2 yrs, n (%) = 6 (4.8) Good appetite: 1 yr, n (%) = 2 (1.9) 2 yrs, n (%) = 4 (4.5) Less appetite: 1 yr, n (%) = 0 (0), p = 0.57 2 yrs, n (%) = 2 (5.7), p = 0.55
Won et al; 2019; Korea ⁴⁷	Prospective longitudinal; N = 75; Until death or December 2015	Other (outpatient), all subjects	EORTC QLQ-C30	Treatment interruption (stopped cancer treatment)	Low score on appetite loss symptom scale: Unadjusted OR = 0.99 (95% CI = 0.98, 1.00), p = 0.03; not significant in multivariate analysis Mean (SD) appetite loss score: Treatment continuation group = 29.4 (40.0) Treatment interruption group = 52.0 (45.9), p = 0.028
Cross-sectional studies					
Donini et al; 2011; Italy ⁶¹	Cross-sectional; N = 527; None	Other (mixed community-dwelling, nursing home, rehabilitation)	Food consumption (staff assessed)	General health (comorbidity burden)	Anorexia and comorbidity as assessed by the Cumulative Illness Rating Scale, mean (SD) With anorexia = 2.4 (2.0) Without anorexia = 2.1 (2.0), p < 0.05

<p>Yamamoto et al; 2020; Japan⁵⁹</p>	<p>Cross-sectional; N = 1042; None</p>	<p>care, acute care), all subjects, aged ≥ 65 yrs</p> <p>Community- dwelling, all subjects</p>	<p>CNAQ</p>	<p>Sleep quality (low sleep efficiency)</p>	<p>CNAQ tertile and low sleep efficiency Middle (better) CNAQ vs low (worst) CNAQ: Adjusted OR (95% CI) = 0.73 (0.47, 1.14) High (best) CNAQ vs low CNAQ: Adjusted OR (95% CI) = 0.54 (0.30, 0.96) p for trend = 0.031 Adjusted for sex, age, BMI, alcohol consumption, smoking, exercise, diabetes, residential status, depression, and midpoint of sleep timing Association of anorexia (SNAQ Simplified < 14) with pre-frailty status vs non-frailty Adjusted OR (95% CI) = 1.59 (1.25, 2.02), p = 0.001 vs SNAQ ≥ 14 Adjusted for covariates including blood protein and albumin</p>
<p>Tsutsumimoto et al; 2017; Japan⁵⁷</p>	<p>Cross-sectional; N = 4417; None</p>	<p>Community- dwelling, all subjects, aged ≥ 70 yrs</p>	<p>SNAQ Simplified</p>	<p>Frailty (pre-frailty status)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with pre-frailty status vs non-frailty Adjusted OR (95% CI) = 1.59 (1.25, 2.02), p = 0.001 vs SNAQ ≥ 14 Adjusted for covariates including blood protein and albumin</p>
				<p>Frailty (frailty status)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with frailty status vs non-frailty Adjusted OR (95% CI) = 1.86 (1.39, 2.49), p = 0.001 vs SNAQ ≥ 14 Adjusted for covariates including blood protein and albumin</p>
				<p>Frailty (slowness)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with slowness as a component of frailty Adjusted OR (95% CI) = 1.42 (1.14, 1.75), p = 0.002 Adjusted for covariates including blood protein and albumin</p>
				<p>Frailty (exhaustion)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with the exhaustion as a component of frailty Adjusted OR (95% CI) = 1.39 (1.11, 1.74), p = 0.004 Adjusted for covariates including blood protein and albumin</p>
				<p>Frailty (weight loss)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with weight loss as a component of frailty Adjusted OR (95% CI) = 1.37 (1.05, 1.79), p = 0.019 Adjusted for covariates including blood protein and albumin</p>
				<p>Frailty (weakness via grip strength)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with weakness as a component of frailty Adjusted OR (95% CI) = 1.06 (0.81, 1.38), p = 0.692 Adjusted for covariates including blood protein and albumin</p>
				<p>Frailty (low physical activity)</p>	<p>Association of anorexia (SNAQ Simplified < 14) with low physical activity as a component of frailty Adjusted OR (95% CI) = 1.14 (0.90, 1.45), p = 0.267 Adjusted for covariates including blood protein and albumin</p>

BMI, body mass index; CI, confidence interval; CNAQ, Council on Nutrition Appetite Questionnaire; EORTC QLQ-C30, European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire; MACCE, major adverse cardiovascular or cerebrovascular events; OR, odds ratio; SD, standard deviation; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire; TAVI, transcatheter aortic valve implantation.

Figure S1 Summary of association between anorexia/appetite loss and scale used to assess appetite in studies identified (n = 58)



^a Based on findings from the univariate analyses, a significant association was found between anorexia/appetite loss and mortality in Hofer et al., 2018 but not in Kanamori et al., 2012. A significant association was found between anorexia/appetite loss and treatment interruption in univariate, but not multivariate analysis in Won et al., 2019.

^b Sarcopenia was assessed in 7 studies.

^c Poor appetite alone was not significantly associated with sarcopenia development in participants with poor appetite and without low masticatory function; however, a significantly higher risk of sarcopenia was observed in those who had both poor appetite and low masticatory function (Senoo et al., 2020).

^d In Nakatsu et al., 2015, the authors measured walking speed, chair stand time, hand-grip strength, and timed "Up and Go" test, and characterized these outcomes as measures of physical performance and not sarcopenia; however, other studies also used these measures to assess sarcopenia. A significant correlation between walking speed, chair stand time, and timed "Up and Go" test and better appetite was noted, whereas the correlation between hand-grip strength and appetite was not statistically significant.

^e Lack of appetite was found to be associated with HRQoL as assessed by the SF-12 MCS score only, but not with the SF-12 PCS score (Pisu et al., 2018).

^f Anorexia was found to be associated with a significantly higher risk of disability in both studies in unadjusted or non-fully adjusted models, but this association was no longer significant in fully adjusted models (Martinez-Reig et al., 2014; Tsutsumimoto et al., 2018).

^g “Other outcomes” includes frailty, general health, infection, MACCE, sleep quality, stroke, treatment (chemotherapy) interruption, and weight loss, which are reported in one study each. AL, appetite loss; HRQoL, health-related quality of life; SNAQ Simplified, Simplified Nutritional Appetite Questionnaire.