

Supplementary Materials

Association of patient-generated subjective global assessment (PG-SGA) scores with survival outcomes in cancer patients: A systematic review and meta-analysis

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Supplementary Table 1. Characteristics of studies included in this meta-analysis

Author	Year	Country	Study design	Cancer type	Size	Age (year)	PG-SGA (n)
Argefa et al ¹⁸	2021	Ethiopia	prospective	Cervical Cancer	175	all age	144/31/0
Barao et al ¹⁴	2017	Brazil	prospective	colorectal cancer	250	70.9 ± 7.4	151/88/11
Bicakli et al ¹⁹	2019	Turky	prospective	Pancreatic Cancer	96	28.0-80.0	4/23/69
Bland et al ¹⁰	2020	Australia	retrospective	Cachexia	203	68.6 ± 11.6	13/118/63
De Groot et al ⁹	2020	Australia	retrospective	all types	246	61.9 ± 13.1	207/36/3
de Sousa et al ²⁰	2021	Brazil	prospective	gastric and colorectal cancer	178	60.8 ± 12.6	92/65/21
Ding et al ²¹	2021	China	retrospective	Gastrointestinal stromal tumors	1268	59.9 ± 4.2	779/277/2
Feng et al ²²	2022	China	retrospective	lung cancer	223	all age	115/108
Findlay et al ¹⁵	2021	Australia	retrospective	head and neck cancer	277	60.0±13.0	175/50/19
Gallois et al ²³	2019	France	prospective	colorectal cancer	168	70.0(33.0-93.0)	96/54/18
Hsieh et al ²⁴	2016	Taiwan	retrospective	Gastric Adenocarcinoma	256	60.0(26.0-85.0)	80/90/82

Author	Follow-up (month)	HR (95%CI)	Adjusted variables
Argefa et al ¹⁸	8.5(3.6-12.0)	OS:3.12(1.23,7.89)	Age, parity, stage of cancer, HIV status and BMI
Barao et al ¹⁴	10.8 ± 16.5	OS:12.041(3.44,42.20)	PA, BMI, ECOG, TNM
Bicakli et al ¹⁹	>3.0	OS:4.66(1.65,13.19)	
Bland et al ¹⁰	31.0	OS:1.04(1.01,1.07)	Disease Stage, AKPS, Albumin, C-reactive Protein, Six-month Weight Loss
De Groot et al ⁹	12.0	OS:10.37(3.75,28.68)	Gender, age, BMI, breast cancer
de Sousa et al ²⁰	12.3 ± 6.1	OS:2.90(1.50,5.90)	Age, TNM stage, type of treatment, and site of cancer
Ding et al ²¹	68.6(16.0-76.0)	OS:1.64(1.26,2.44)	Gender, age, NRS2002, Pre-albumin, Albumin, BMI, NIH classification, Nutritional therapy
Feng et al ²²	34.9	OS:2.40(1.67,3.45)	Age, KPS, Stage, Loss of appetite, Cancer pain, Treatment method, supportive care, NLR, NAR
Findlay et al ¹⁵	>3.0	OS:3.03(1.87,4.93)	Age, sex, ethnicity, performance status, disease stage, Charlson comorbidity index, and nutritional status (Malnourished)
Gallois et al ²³	23.0(21.0-26.0)	PFS:1.50(0.80,2.60)	Number of metastatic sites >2, performance status, Single agent, Nutritional intervention, CEA > 200 ng/mL, LDH > 250 UI/L, Platelets > 400000/mm3, ALP > 300 UI/L, Lymphocytes < 1000/mm3, Albuminemia < 35g/L
		OS:2.60(1.30,5.30)	Number of metastatic sites >2, performance status, Irinotecan, Single agent, Nutritional intervention, LDH > 250 UI/L, Platelets > 400000/mm3, ALP > 300 UI/L, Albuminemia < 35g/L
Hsieh et al ²⁴	19.4(1.9-61.6)	OS:2.73(1.73,4.29)	Sex, Age, ECOG PS, Differentiation, Liver metastasis, Peritoneal metastasis, NLR, mGPS

PG-SGA: Patient-Generated Subjective Global Assessment, OS: overall survival, PFS: progression-free survival, EFS: event free survival, CFS: complication-free survival, HR: hazard ratio, CI: confidence interval.

Age, the results are presented as mean ± SD, median (interquartile), and range.

PG-SGA, the results are presented as number of A/B/C, normal/ undernutrition.

Follow-up, the results are presented as mean ± SD, mean(range), median (interquartile), and range

Supplementary Table 1. Characteristics of studies included in this meta-analysis (cont.)

Author	Year	Country	Study design	Cancer type	Size	Age (year)	PG-SGA (n)
Jin et al ²⁵	2021	China	retrospective	Ampullary Carcinoma	511	58.0(49.0-66.0)	122/189/200
Kim et al ²⁶	2017	Korea	retrospective	multiple myeloma	216	59.0(22.0-86.0)	62/104/50
Li et al ²⁷	2018	China	retrospective	leukemia	68	43.0±14.8	49/19
Nikniaz et al ²⁸	2022	Iran	prospective	gsatric cancer	302	67.4 ± 12.0	86/174/42
Rodrigues et al ¹⁶	2015	Brazil	prospective	gynecologic cancer	146	55.3 ± 14.9	55/68/23
Ruan et al ²⁹	2022	China	retrospective	colorectal cancer	1358	60.0(52.0,67.0)	517/841
Cunha et al ³⁰	2018	Brazil	prospective	all types	172	61.0(54.0,69.5)	28/86/57
Tan et al ³¹	2015	Australia	prospective	all types	114	62.0(15.0)	48/46/20
van Dijk et al ¹¹	2022	the Netherlands	prospective	hepatocellular carcinoma	56	70.0(43.0-86.0)	44/12/0
Geldern et al ³²	2020	Chile	prospective	all types	103	54.9 ± 13.5	54/42/7
Author	Follow-up (month)	HR (95%CI)	Adjusted variables				
Jin et al ²⁵	12.0	OS:1.51(1.10,2.06)	Age, T stage, Lymph node metastasis, Vascular invasion, Perineural invasion, Tumor grade, Resection margins, TNM stage, Adjuvant therapy				
Kim et al ²⁶	30.0(1.0-139.0)	OS:2.35(1.27,4.33)	ISS, Serum creatinine, Performance of ASCT				
Li et al ²⁷	8.3(1.0-30.0)	OS:4.12(1.06,15.87)	Induced remission, Risk category, Type of Acute leukemia, Age, Initial leukocyte				
Nikniaz et al ²⁸	>3.0	EFS:1.24(0.52,2.96)	Disease Stage, AKPS, Albumin, C-reactive Protein, Six-month Weight Loss				
Rodrigues et al ¹⁶	12.0	OS:2.04(1.16,3.58)	Tumor-node-metastasis stage, treatment, Body weight loss, BMI				
Ruan et al ²⁹	>3.0	OS:2.04(1.03,4.05)	Tumor site, Cancer stage, Reason for hospital admission, length of stay, ASG PPP score per additional point,				
Cunha et al ³⁰	3.0	OS:1.42(1.14,1.77)	Age, gender, comorbidities disease, tumor location, stage, organ metastasis, surgery, radiotherapy, chemotherapy and immunotherapy				
Tan et al ³¹	13.9(18.3)	OS:1.66 (1.08, 2.55)	Types of tumor, KPS, CRP, Albumin, mGPS, PG-SGA score ≥19 + mGPS ≥1, PG-SGA B or C + mGPS ≥1				
van Dijk et al ¹¹	12.4(1.1-32.1)	OS:2.19(1.08,4.46)	m-GPS, NLR, Either required dose reduction or blood transfusion or hospital admission, Weight loss during first cycle chemotherapy				
Geldern et al ³²	38.0(0.2-66.0)	OS:1.04(0.38,2.86)	L3-SMI, HGS, LFI stage, ΔChild-Pugh score, mRECIST at 3 monts, ΔHGS, ΔLFI stage, ΔPG-SGA stage				
		CFS:1.35(0.55,3.33)	L3-SMI, HGS, LFI stage, ΔChild-Pugh score, mRECIST at 3 monts, ΔHGS, ΔLFI stage, ΔPG-SGA stage				
		OS:2.42(1.58,3.72)	Sex, Age, TNM stage				

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Age, the results are presented as mean ± SD, median (interquartile), and range.

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Supplementary Table 1. Characteristics of studies included in this meta-analysis (cont.)

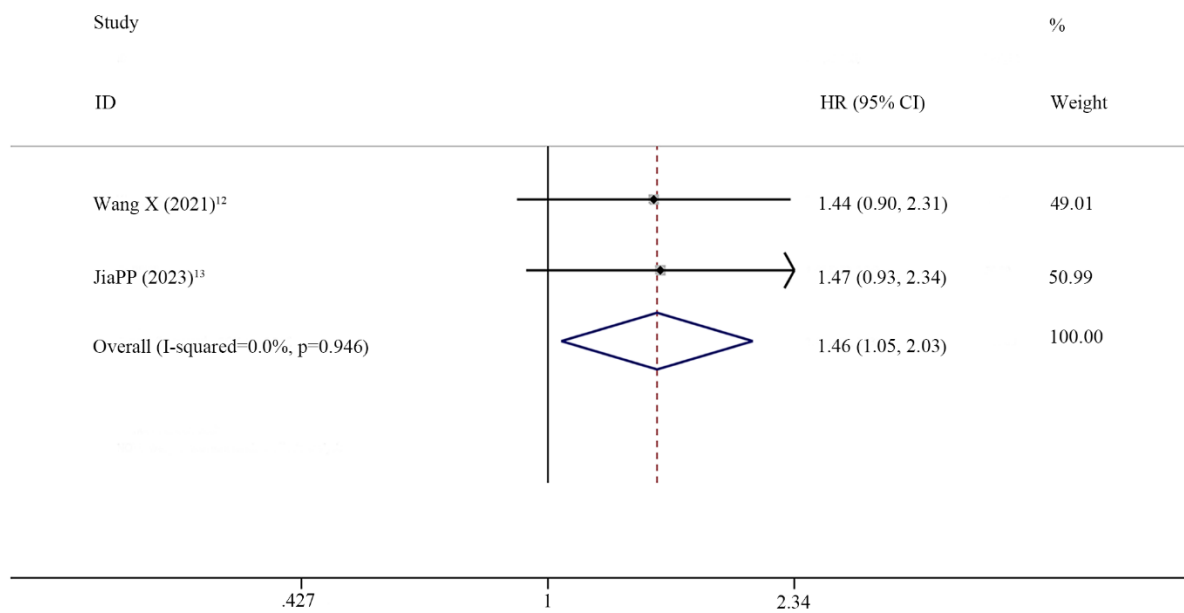
Author	Year	Country	Study design	Cancer type	Size	Age (year)	PG-SGA (n)
Wang et al ¹²	2021	China	retrospective	Nasopharyngeal Carcinoma	923	49.3 ± 11.5	772/151
Zhang et al ³³	2021	China	prospective	all types	8749	all age	3931/2688/2130
Zhang et al ³⁴	2022	China	retrospective	all types	702	60.0(53.0-67.0)	212/490
Balci et al ³⁵	2023	Turkey	prospective	all types	267	58.1±12.6	124/143
da Silva Couto et al ³⁶	2023	Brazil	retrospective	Colorectal Cancer	191	60.5±11.3	130/55/6
Fruchtenicht et al ³⁷	2018	Brazil	prospective	gastrointestinal tumors	41	59.0±12.0	2010/11/20
Ge et al ³⁸	2019	China	retrospective	lung cancer	495	28.0-79.0	55/316/124
Huo et al ³⁹	2023	China	prospective	lung cancer	6697	60.0(53.0,66.0)	3065/2288/1344
Jia et al ¹³	2023	China	prospective	nasopharyngeal carcinoma	1365	18.0-90.0	1009/356
Kubrak et al ⁴⁰	2009	Canada	prospective	head and neck cancer	341	62.0(23.0-92.0)	234/107
Zou et al ⁴¹	2022	China	prospective	non-Hodgkin's lymphoma	963	53.0(43.0,64.0)	451/512
Author	Follow-up (month)	HR (95%CI)	Adjusted variables				
Wang et al ¹²	28.3 ± 16.3	OS:1.44(0.90,2.31)	Sex, age, body mass index, alcohol consumption, TNM stage, and NLR				
Zhang et al ³³	27.6	OS:2.8(2.52,3.03)	Stage, C-index				
Zhang et al ³⁴	>6.0	OS:3.45(1.49,8.33)	Age, tumor type, BMI, PA-LA				
Balci et al ³⁵	23.6	OS:2.18(1.13, 4.18)					
da Silva Couto et al ³⁶	>60.0	OS:1.65(1.05, 2.60)	Age, sex, Performance status, Cancer Stage, Treatment in the last 3 months				
Fruchtenicht et al ³⁷	18.0(1.0-48.0)	OS:1.01(0.57, 1.80)	Stage, BMI, Albumin, NLR				
Ge et al ³⁸	12.6(1.0-60.0)	OS:1.86(1.58, 2.18)	Age, sex, type of lung cancer, Albumin				
Huo et al ³⁹	54.0	OS:1.70(1.38, 2.10)	Age, comorbidity, tumor, stage, cancer family history, alcohol consumption, KPS				
Jia et al ¹³	>3.0	OS:1.47(0.93, 2.34)	Age, gender, somking status, Distance metastasis, Complicated with chronic disease, Radiotherapy or chemotherapy, Albumin, Prealbumin, Hemoglobin, Weight loss in a month, Weight loss in 6 months, BMI, MAC, TSF, Grip strength of subdominant hand, Circumference of calf, Karnofsky, NRS2002				
Kubrak et al ⁴⁰	33.0	OS:2.10(1.40, 3.10)					
Zou et al ⁴¹	33.3(7.8, 60.0)	OS:1.09(0.78, 1.51)	Age, nutrition treatment, KPS, ALB, Ann Arbor stage, hemoglobin, surgery, chemotherapy				

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Supplementary Figure 1. Forest plot of the association between PG-SGA-defined undernutrition and NPC overall survival in a fixed effect model. HR: hazard ratio, CI: confidence interval.