Recommended References

Current Knowledge and Status of Nutrition Practice in Oncology Outpatient Care

Citation	Objective	Study Design	Outcome
Bagan P, et al. 2013. Nutritional status and postoperative outcome after pneumonectomy for lung cancer. Ann Thorac Surg 95:392-396	Assess the nutritional status of patients referred for pneumonectomy and assess the value of malnutrition in predicting adverse events	Prospective observational multicenter study in France; data were collected on pathology stage and clinical characteristics, nutritional assessment, and morbidity/mortality outcomes	Malnutrition was significantly associated with morbidity and mortality, as well as longer hospital stay.
Bozzetti F, et al. 2012. The nutritional risk in oncology: a study of 1,453 cancer outpatients. Supp Care Cancer 20:1919-1928.	Define the pattern of scores of nutritional risk in a population of cancer outpatients and analyze factors associated with high nutritional risk	Prospective screening nutritional status of oncology outpatients using Nutritional Risk Screening (NRS 2002) tool	32% of outpatients were found to be at nutritional risk; primary tumor site, Eastern Cooperative Oncology Group performance status score, and anorexia/fatigue were significantly associated with poor NRS scores
Clavier J-B, et al. 2014. Baseline nutritional status is prognostic factor after definitive radiochemotherapy for esophageal cancer. Dis Esophagus 27:560-567	Identify prognostic factors focused on nutritional status for survival of esophageal cancer	Retrospective analysis of consecutive case series; data included tumor staging, weight loss, BMI, serum albumin, and treatment modality	Baseline nutritional status was a factor in the outcome of esophageal cancer patients treated by definitive radiochemotherapy; Nutritional Risk Index was an independent prognostic factor of both disease-free and overall survival.

Citation	Objective	Study Design	Outcome
Langius JAE, et al. 2013. Critical weight loss is a major prognostic indicator for disease-specific survival in patients with head and neck cancer receiving radiotherapy. Br J Cancer 109:1093-1099.	Determine whether weight loss before or during radiotherapy is associated with disease-specific survival (DSS) in head and neck cancer patients	Data on weight change was collected on a consecutive cohort of H&N cancer patients before and during adjuvant radiotherapy; 5-year overall and DSS was assessed	Weight loss before radiotherapy was significantly associated with poorer survival; weight loss > 5-10% and > 10% was significantly associated with worse DSS; DSS was significantly worse for patients with critical weight loss during radiotherapy
Senesse P, et al. 2015. A prospective observational study assessing home parenteral nutrition in patients with gastrointestinal cancer: benefits for quality of life.	Evaluate the impact of home parenteral nutrition (HPN) on quality of life and changes in nutritional status and assess proxy perception of patient well-being	Prospective observational study of patients with GI cancer in France; questionnaires were given to physicians, patients, and families; data on physical status and Nutritional Risk Screening was collected by physicians; data from a Functional Assessment of Cancer Therapy-General as well as perceptions about body weight, HPN, and autonomy during HPN were collected from patients; an embedded proxy questionnaire about perception of well-being was included for patients	HPN was significantly associated with improved quality of life, but did not affect autonomy; nutritional status also showed improvement with HPN

Citation	Objective	Study Design	Outcome
Silander E, et al. 2013. Energy intake and sources of nutritional support in patients with head and neck cancer – a RCT. Eur J Clin Nutr 67:47-52.	Explore when and for how long patients had dysphagia and weight loss due in inadequate dietary intake and whether a PEG had an impact on nutritional status	Randomized clinical trial of H&N patients; intervention group received prophylactic PEG and nutritional advice as needed; control group received standard nutritional care; patients were followed for 2 years	No significant differences were found in weight loss over the first 6 months; weight loss ceased for both groups by year 2; both groups transitioned to oral intake by year 2.

Benefits of Outpatient Nutrition Care on Survival

Citation	Objective	Study Design	Outcome
Percival C, et al. 2013. Providing nutritional support to patients with thoracic cancer. Resp Med 107:753-761	Evaluate effectiveness of a screening tool and dietary intervention on patient outcomes and dietetic workload	Patient-completed questionnaire, dietitian-administered screening tool, dietetic intervention, and follow-up	No significant difference in pattern, magnitude, or % change in weight between malnourished and not malnourished groups.
Poulsen GM, et al. 2014. Randomized trial of the effects of individual nutritional counseling in cancer patients. Clin Nutr 33:749-753	Investigate the effect of intensive, individual dietary counseling of patients in radiotherapy and/or chemotherapy for gynecologic-, gastric-, or esophageal cancer	Prospective, randomized, controlled, unblended, trial conducted in outpatients receiving chemo- and/or radiotherapy; intervention group received a nutritional supplement and nutrition counseling at baseline, and 1X weekly during treatment, and at 3 month follow-up; control group was instructed by nurses and instructed to call a dietitian as needed	Patients receiving nutrition counseling had significantly less weight loss and significantly higher energy and protein intake compared to controls; the intervention had no effect on quality of life or incidence of side effects from tx
Santos Rodrigues C, Villaca Chaves G. 2015. Patient-generated subjective global assessment in relation to site, stage of the illness, reason for hospital admission, and mortality in patients with gynecological tumors. Support Care Cancer 23:871-879.	Identify factors related to illness and oncological treatment as determinants of nutritional status using PG-SGA in patients with gynecological tumors	Retrospective cohort analysis of survey participants with gynecological tumors in Rio de Janeiro	PG-SNA is a useful tool for nutritional assessment and identification of nutritional risk in gynecological cancer patients.

Citation	Objective	Study Design	Outcome
Thompson HJ, et al. 2012. Effect of dietary patterns differing in carbohydrate and fat content on blood lipid and glucose profiles based on weight-loss success of breast-cancer survivors. Br Cancer Res 14:R1	Examine whether the type of diet plan for weight loss has any deleterious effects in a cohort of breast cancer survivors	Non-randomized, controlled trial examining two dietary patterns at the extremes of macronutrient composition against a nonintervention control on weight loss, body composition, and biomarkers of metabolic and hormonal processes relevant to breast cancer	Both arms of treatment achieved beneficial effects of weight loss on lipid biomarkers and fasting glucose; negative effects on outcomes was not observed for either dietary pattern. Effects of both dietary patterns on long-term survival were not determined.
Tu M-Y, et al. 2012. Effects of an intervention on nutrition consultation for cancer patients. Eur J Cancer Care 22:370-376	Examine whether a personalized nutrition intervention can preserve body weight and food intake and prevent nutrient deficiencies in post-discharge cancer patients	Randomized trial of post-discharge cancer patients in Taiwan, China; SGA was used to evaluate nutritional status; intervention group received nutrition counseling and meal planning; control group did not have counseling	Nutrition counseling significantly increased food intake recovery and decreased weight loss from initial consultation while only food intake recovery increased for control groups; cancer stage but not cancer type affected nutritional status for both groups.

Models of Care

Citation	Objective	Study Design	Outcome
Bauer JD, Capra S. 2005. Nutrition intervention improves outcomes in patients with cancer cachexia receiving chemotherapy – a pilot study. Support Care Cancer 13:270-274	Assess the effects of nutrition intervention with counseling by a dietitian and diet prescription on outcomes of dietary intake, body composition, nutritional status, functional capacity, and quality of life	Clinical trial measuring nutritional and quality of life outcomes of 7 adenocarcinoma patients receiving nutritional counseling, oral supplement, and nutritional assessment over 8 weeks of intervention	Significant improvement was found over the 8-week intervention trial for total protein, energy, and fiber intake; PG-SGA scores significantly improved for quality of life and Karnofsky performance status; use of oral supplements did not impair meal intake
Hofbauer SL, et al. 2015. The preoperative prognostic nutritional index is an independent predictor of survival in patients with renal cell carcinoma. Urologic Oncology 33(68):e1-e7.	Assess the Prognostic Nutritional Index (PNI) as a predictor of poor outcomes in patients with cancer	Retrospective review of medical records of patients diagnosed with renal cell carcinoma; cancer-specific survival was the primary outcome measure	A low PNI score was significantly associated with lower cancer-free survival and lower disease-free survival in renal cell carcinoma patients
Kiss NK, et al. 2012. A dietitian-led clinic for patients receiving (chemo)radiotherapy for head and neck cancer. Support Care Cancer 20:2111-2120	Determine the impact of a dietitian-led clinic, guided by evidence-based nutrition care, on the frequency of dietitian review, weight loss, enteral feeding, nutrition-related admissions, and requirement for medical review	Prospective, 2-cohort study with a pre-post-test design; cohort 1 received standard care protocol; cohort 2 received dietitian-led consultation (DLC); DLC included collecting diet and anthropometric data, estimating nutritional requirements, and providing individualized counseling	Patient age, tumor stage, and body composition were significantly associated with poor survival; longer hospital stay was independently predicted by low serum albumin, poor surgery outcome, and low sub-q fat and muscular fat.

Citation	Objective	Study Design	Outcome
Silvers MA, et al. 2014. Potential benefits of early nutritional intervention in adults with upper gastrointestinal cancer: a pilot randomized trial. Supp Care Cancer. 22:3035-3044.	Pilot study to test whether an intensive early nutrition intervention in newly diagnosed GI cancer patients was feasible	Randomized controlled trial; intervention group received weekly telephone contact from a dietitian that was continued in-person during clinical appointments; control group had no dietitian contact unless referred when admitted for surgery or chemotherapy	Baseline prevalence of malnutrition was similar for both groups; at mid-study, nutrition intervention group showed significantly higher global assessment and quality of life scores; nutrition risk scores decreased and weight loss was attenuated in intervention group compared to controls
Wall LR, et al. 2016. Evaluation of a weekly speech pathology/dietetic service model for providing supportive care intervention to head and neck cancer patients and their carers during chemoradiotherapy. Supp Care Cancer 24:1227-1234.	Evaluate the weekly, joint speech pathology (SP)/dietetic (DN) service delivery model given to H&N cancer patients at an outpatient clinic in Australia	Cross-sectional study of H&N patients, care-givers, and clinicians; data was collected across six 2-week collection periods on: service characteristics, the SP/DN sessions, and responses from consumer groups who either received or provided SP/DN services	Approximately 75% of SP/DN sessions were perceived as necessary by patients and/or clinicians (cancellations and non-attendance were low – 1-2 sessions/week); 24% of scheduled sessions were deemed “not required” by patients and clinicians; emergency and unplanned sessions were low; patient report and clinician judgement agreement was high

Benefits and Costs of Care

Citation	Objective	Study Design	Outcome
Braga M. et al, 2013 Clinical Evidence for Pharmaconutrition in Major Elective Surgery JPEN vol 37 supp 1, Sept 2013 66S-72S	The objective of the study was to take a look broadly at the benefits of specific nutrients in combination and singularly in elective surgery	Systematic Reviews and Meta-Analysis	Immunonutrition – combination of arginine Omega 3 FA and nucleotides resulted in decreased morbidity. Glutamine given without other nutrients yielded mixed results
Boltong AG et al. 2013. Using a public hospital funding model to strengthen a case for improved nutritional care in a cancer setting. Australian Health Review 37:286-290	Measure the prevalence of malnutrition risk, assess malnutrition in cancer-specific setting; model funding opportunities associated with malnutrition screening	Point-prevalence audit of malnutrition risk and diagnosis; retrospective audit of hospital funding associated with malnutrition	Malnutrition prevalence was 52% overall. Including a diagnosis of malnutrition changed the casemix funding value of 12% of the audited patients; the study suggests a model for a cancer-specific nutrition service to improve identification and treatment of malnutrition.
Cong M-H, et al. 2015. An interdisciplinary nutrition support team improves clinical and hospitalized outcomes of esophageal cancer patients with concurrent chemoradiotherapy. Chinese Medical Journal 128(22):3003-3007	Investigate whether nutrition support team intervention can benefit esophageal cancer patients undergoing chemoradiotherapy (CRT) in Beijing, China	Randomized trial of esophageal cancer patients undergoing CRT; treatment group received nutrition support team (NST) intervention; control group received oral nutrition supplements and enteral nutrition only; nutritional status, completion of therapy, and length of hospital stay were evaluated	Laboratory indices of nutritional status were better in the NST group and medical complications were fewer compared to controls; Completion of CRT was significantly improved in the NST group and length of hospitalization was reduced by 4.5 days compared to controls.

Citation	Objective	Study Design	Outcome
Horsley P, et.al. 2005. Poor nutritional status prior to peripheral blood stem cell transplantation is associated with increased length of hospital stay. Bone Marrow Transplantation 35:1113=1116	Determine the nutritional status of patients prior to PBSCT and examine the impact of nutritional status on hospital length of stay	Consecutive case studies of 66 patients over 18 months; patients were assessed for malnutrition by a dietitian and given a PG-SGA score; medical records were reviewed for additional information including length of hospital stay	PG-SGA scores were significantly related to hospital stay and mortality.
Percival C, et al. 2013. Providing nutritional support to patients with thoracic cancer. Resp Med 107:753-761	Evaluate effectiveness of a screening tool and dietary intervention on patient outcomes and dietetic workload	Patient-completed questionnaire, dietitian-administered screening tool, dietetic intervention, and follow-up	No significant difference in pattern, magnitude, or % change in weight between malnourished and not malnourished groups
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Rodera, et al. 2012 Immunoenhanced enteral nutrition formulas in head and neck cancer surgery; a systematic review	To determine whether perioperative immunonutrition has a role in the treatment of head and neck cancers	Review of clinical trials data from randomized trials where patients were either receiving nutritional supplements or not	Results revealed reduction in postoperative stay from 28.5 days versus 35 days. Immunological parameter results were mixed. Survival was increased.

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Santos Rodrigues C, Villaca Chaves G. 2015. Patient-generated subjective global assessment in relation to site, stage of the illness, reason for hospital admission, and mortality in patients with gynecological tumors. Support Care Cancer 23:871-879.	Identify factors related to illness and oncological treatment as determinants of nutritional status using PG-SGA in patients with gynecological tumors	Retrospective cohort analysis of survey participants with gynecological tumors in Rio de Janeiro	PG-SNA is a useful tool for nutritional assessment and identification of nutritional risk in gynecological cancer patients.
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