

The impact of chemotherapy on the nutritional status of patients with pancreatic cancer



Erin A Wesley¹, Ellen Lyell², Mary Mahon², Roisin Devaney¹ and David M Bourne^{1,2},

¹Newcastle University, Faculty of Medicine and School of Biomedical, Sport and Nutritional Sciences, Newcastle upon Tyne, UK
²Nutrition and Dietetics, Freeman Hospital, Newcastle upon Tyne NHS Foundation Trust, Newcastle upon Tyne, UK.



The Newcastle upon Tyne Hospitals
 NHS Foundation Trust

BACKGROUND

Pancreatic cancer (PC) is an aggressive malignancy with poor prognosis.

The most common PC subtype is pancreatic ductal adenocarcinoma (PDAC).

Malnutrition is highly prevalent among patients with PC and multifactorial in development.

Chemotherapy treatment can result in gastrointestinal symptoms and negatively influence nutritional status.

Within our institution there is no dietetic provision for PC patients receiving chemotherapy.

RESEARCH AIM

This study aimed to describe the impact of chemotherapy on nutritional status within our institution.

METHOD

Patients completing chemotherapy from January 2023 to January 2024 due to PDAC with any treatment intent were included in the study.

Electronic medical records were retrospectively reviewed, and data extracted regarding patient demographics, anthropometric measures, PERT prescription, dietetic referral and gastrointestinal symptoms.

Global Leadership Initiative on Malnutrition (GLIM) criteria were applied to baseline and end of treatment nutritional data to determine prevalence of malnutrition.

All analyses were performed with IBM SPSS 29 with $p < 0.05$ considered statistically significant.

RESULTS

Table 1. Population demographics

	n=42 (%)	SD ±
Gender		
Male	22(52)	
Female	20(48)	
Mean age (years)	66.6	9.55
Ethnicity		
White British	34 (81)	
Chemotherapy intent		
Neo-adjuvant	2 (5)	
Adjuvant	6 (14)	
Palliative	34 (81)	
Chemotherapeutic agent		
Folfironox	18 (43)	
Gemcitabine + nab-paclitaxel	12 (29)	
GemCap	5 (12)	
Gemcitabine (single agent)	4 (10)	
Folfox	2 (5)	
Capecitabine (single agent)	1 (2)	

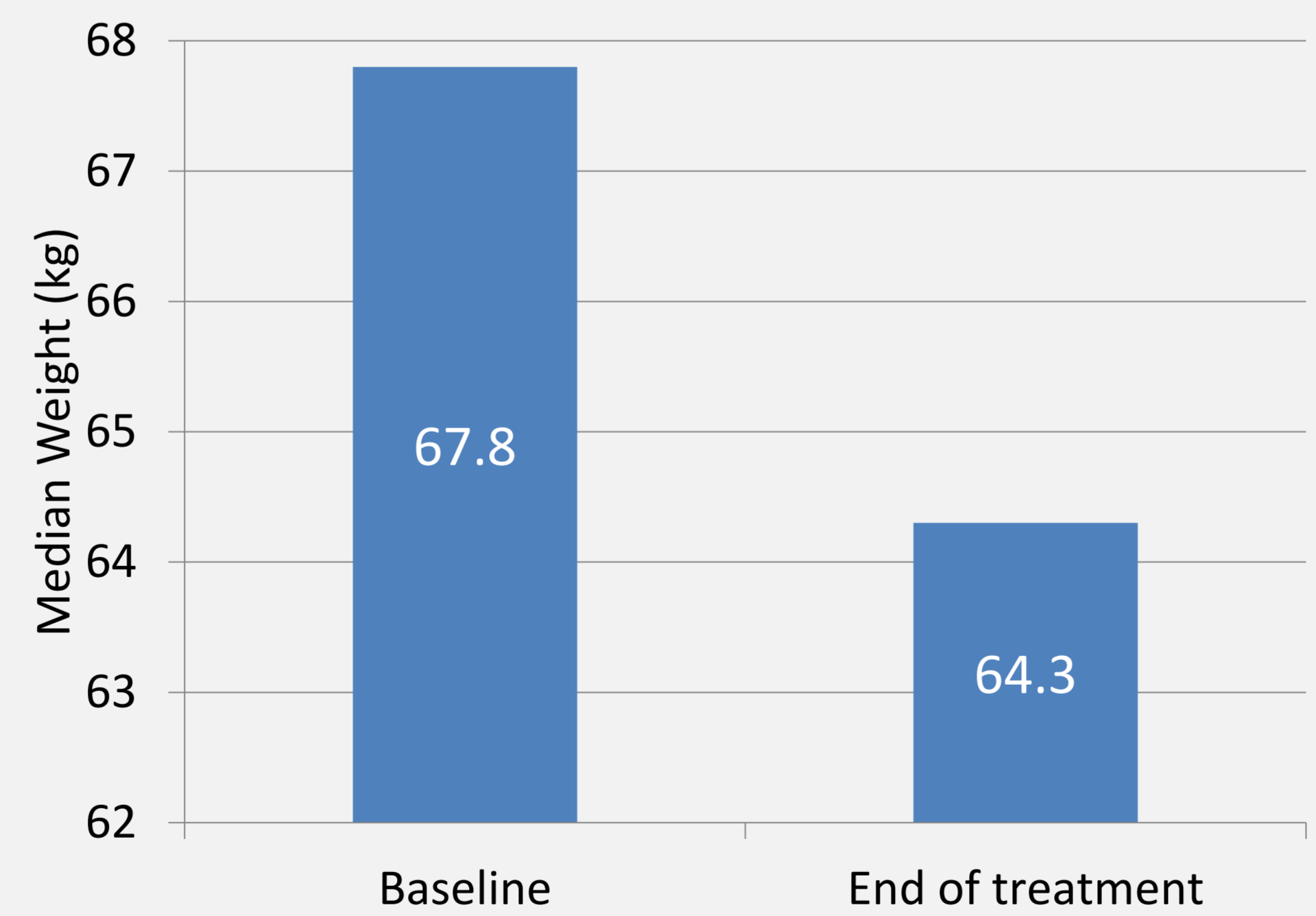


Figure 1. Median weight change from baseline to end of treatment

Figure 1 shows there was a significant difference in median weight at end of treatment compared to baseline ($p < 0.001$).

Mean percentage weight loss of 7% was experienced during treatment.

RESULTS

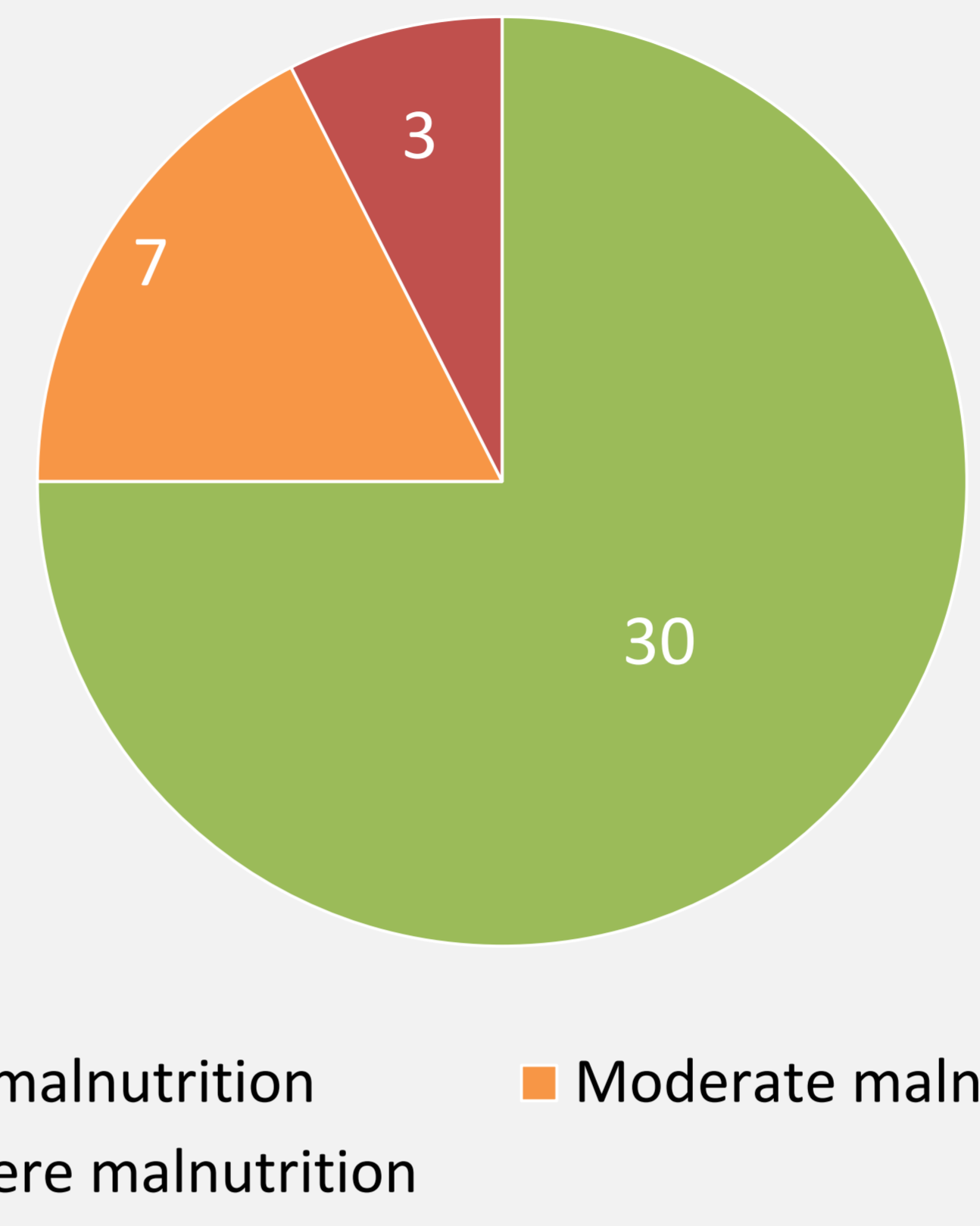


Figure 2. Baseline malnutrition prevalence and severity as per GLIM

Figures 2 and 3 show malnutrition prevalence and classification at baseline and end of treatment, respectively. There was a significant increase in malnutrition prevalence from baseline, 10/40 (25%), to end of treatment, 24/36 (67%), ($p < 0.001$).

Dietitian involvement was present in 4/42 (10%) of patients with diet modification (2/4) and oral nutritional supplements (2/4) being the interventions implemented.

PERT prescription was documented in 38/42 (90%) and 39/42 (93%) of patients at baseline and end of treatment respectively.

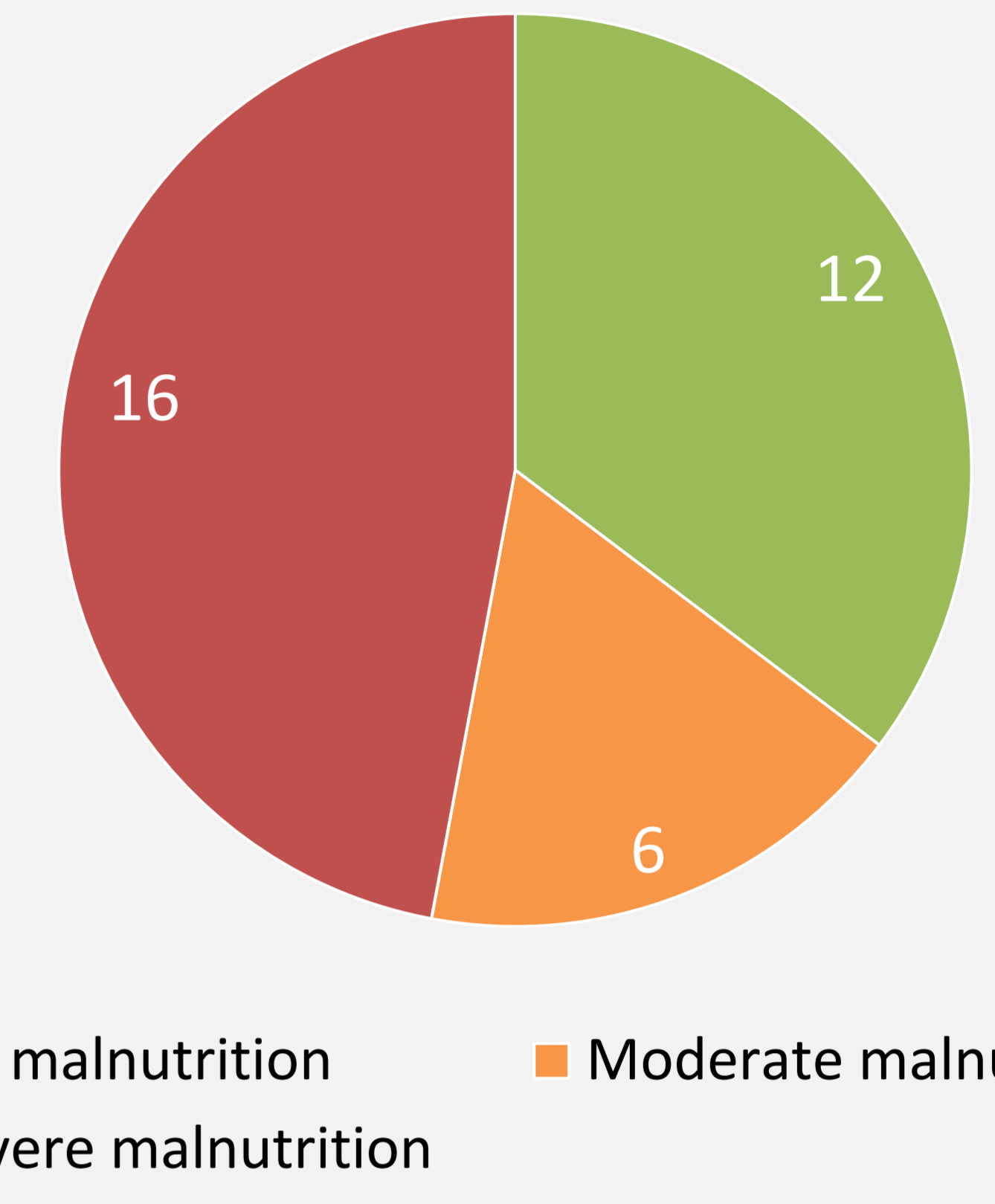


Figure 3. End of treatment malnutrition prevalence and severity as per GLIM

RESULTS

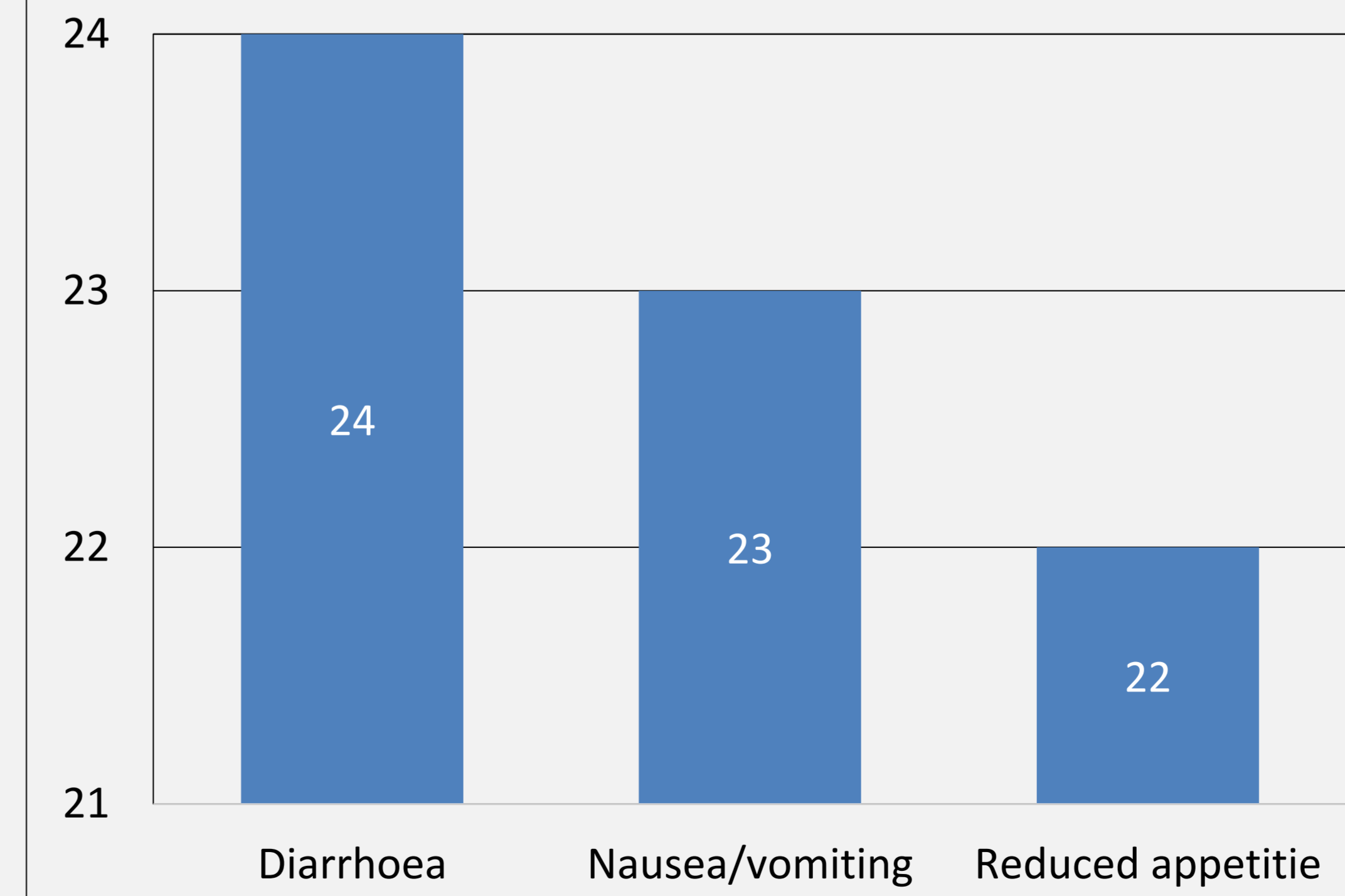


Figure 4. Patient reported GI symptoms

Figure 4 shows the most reported GI symptoms experienced by patients during treatment.

CONCLUSIONS

This work has demonstrated the negative effect of chemotherapy on nutritional status in PC patients, evidenced by significant weight loss and increased prevalence of malnutrition during chemotherapy.

Dietetic involvement and nutritional interventions present do not meet the clinical need of this cohort.

High level PERT prescription is a positive finding.

These findings highlight the need for dietetic provision for this nutritionally challenging group of patients.