Original Article

Evaluation of the 3-day recall period for the Functional Life Index-Emesis (FLIE)

Bo Angela Wan[1], Leah Drost[1], Vithusha Ganesh[1], Liying Zhang[1], Caitlin Yee[1], May Tsao[1], Elizabeth Barnes[1], Mark Pasetka[1], Carlo DeAngelis[1,2], Edward Chow[1]

[1]Odette Cancer Centre, Sunnybrook Health Sciences Centre, University of Toronto, Toronto, Ontario, Canada; [2]Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario, Canada

Contributions: (I) Conception and design: BA Wan, E Chow; (II) Administrative support: BA Wan, L Drost, C Yee; (III) Provision of study materials or patients: All authors; (IV) Collection and assembly of data: All authors; (V) Data analysis and interpretation: All authors; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

Correspondence to: Dr. Edward Chow, MBBS, MSc, PhD, FRCPC. Department of Radiation Oncology, Odette Cancer Centre, Sunnybrook Health Sciences Centre, 2075 Bayview Avenue, Toronto, Ontario, M4N 3M5, Canada. Email: edward.chow@sunnybrook.ca.

Background: Nausea and vomiting are commonly experienced by cancer patients, and can be assessed by the Functional Life Index-Emesis (FLIE) instrument which employs a three-day recall period. However, it is unknown whether patients' responses to the FLIE better correlate with the average or the worst symptom severity of the recall period, or the severity of an individual day.

Methods: Patients receiving emetogenic radiotherapy for painful bone metastases who were enrolled in one of three trials for anti-emetic medications (ondansetron, aprepitant/granisetron, or palonosetron) completed the FLIE at baseline, and days 3, 5, 7, or 10 during treatment and follow-up. The concordance correlation coefficient (rc) was calculated between FLIE overall nausea and vomiting and daily nausea, vomiting, and quality of life (QoL) using the average responses of the 3-day recall period and with each of the 3 days' responses.

Results: Responses from eighty-nine patients who experienced nausea or vomiting were analysed. The highest concordance for FLIE nausea was with the 3-day average [during treatment: rc =0.698, 95% confidence interval (CI): 0.495, 0.829; follow-up: rc =0.821, 95% CI: 0.711, 0.892]. FLIE vomiting had the highest concordance with worst day vomiting (during treatment, rc =0.310, 95% CI: 0.194, 0.417) or two day-prior vomiting (follow-up, rc =0.902, 95% CI: 0.832, 0.944). FLIE nausea and vomiting had inconsistent concordances with daily assessments of QoL.

Conclusions: Responses to the FLIE questionnaire are most representative of average nausea severity. Larger cohorts to validate these findings are warranted to address the lack of power in this present study and to confirm the wording and justification of a three-day recall period for the FLIE.

Keywords: Nausea; vomiting; quality of life (QoL); recall period; Functional Life Index-Emesis (FLIE); radiation-induced nausea and vomiting (RINV)

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Introduction

Nausea and vomiting are common side effects of many cancer treatments, and can have significant impacts on patient quality of life (QoL) (1,2). These distressing symptoms are often experienced by patients receiving radiation therapy (3,4). Radiation-induced nausea and vomiting (RINV) has been reported with rates as high as 80% in patients receiving abdominal radiation; overall, rates of RINV range from 30–40% (2,4).

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Because QoL is often adversely affected by RINV, several recent trials employed by our centre testing the efficacy of various anti-emetic medications have included a QoL tool as a standard questionnaire (5,6). To assess the QoL of patients experiencing RINV, the Functional Life Index-Emesis (FLIE) was used for these studies. The FLIE is a QoL questionnaire that evaluates the prevalence of nausea and vomiting and their effect on different aspects of QoL and function (7). The FLIE uses a 7-point scale ranging from 1 (not at all) to 7 (a great deal) for its 18 questions, with Q1–9 assessing presence of nausea and its effects on various life aspects, and Q10–18 assessing that of vomiting. This measurement tool employs a recall period of 3 days (7).

The use of recall periods by questionnaires has been debated in the past. One study by Lackner *et al.* showed that the accuracy of retrospective symptom questionnaires is not well-understood. When asked to report on their experiences over the past 7 days, patients with gastrointestinal symptoms were fairly accurate in recalling certain experiences, such as the most severe pain that occurred, but tended to overestimate other measures, such as the average intensity of pain (8). Norquist *et al.* remarked in their review of patient-reported outcome measures employing recall periods that the use and length of recall periods on such questionnaires must depend on what exactly is being measured, the nature of symptoms, the impact of patient burden and the feasibility of recalling details of the symptoms in question (9). Depending on the nature of the symptoms being measured, different recall periods may be indicated for an accurate representation of the patient's experience; for example, frequently measuring symptoms that tend to be consistent over time would pose an unnecessary burden on patients, and infrequently measuring symptoms that occur very sporadically would likely be ineffective in capturing their impact on the patient (9).

As the FLIE used in the current evaluated studies of antiemetic medications employs a recall period, our objective was to demonstrate its effectiveness in reporting QoL symptoms accurately, or its lack thereof (5,6,10).

Methods

This was a secondary analysis of data on nausea and vomiting collected in three separate trials which enrolled palliative oncology patients at the Odette Cancer Centre. Patients received medium or low emetogenic risk palliative radiotherapy of either a single 8 Gy fraction, 20 Gy in 5 fractions, or 30 Gy in 10 fractions according to the 2009 Multinational Association for Supportive Care in Cancer (MASCC) guidelines, which were standard at time of study enrollment (11). Radiotherapy to upper abdomen or upper half body radiation were considered to have moderate emetogenic risk, and radiotherapy to cranium, craniospinal, head and neck, lower thorax, and pelvis were considered to have low emetogenic risk (2). The three trials that contributed data to this study were:

A phase II pilot study on ondansetron rapidly dissolving film (Ondissolve) for the prophylactic treatment of RINV (6).

A pilot study investigating the efficacy of aprepitant and granisetron for the prophylaxis of RINV (5).

A prospective study of palonosetron in RINV (10).

All individuals enrolled had a Karnofsky performance status of 40 or greater. The studies were approved by the Hospital Research Ethics Board and Health Canada (ondansetron: No. 102-2013, aprepitant/granisetron: No. 257-2010; palonosetron: No. 434-2013), and patients provided written informed consent prior to enrollment.

For the duration of radiotherapy treatment and for 10 days after radiotherapy completion, patients completed diaries in which they recorded their daily severity of nausea and of vomiting as "none", "mild", "moderate", or "severe".

For the ondansetron study, patients completed the FLIE at baseline, and at days 3 and 7 during treatment. In the aprepitant/granisetron study, patients completed the FLIE at baseline and at days 5 and 10 of the follow-up period. For the Palonosetron study, patients completed the FLIE on days 5 and 10 of treatment if they received multiple fraction radiation, and days 3 and 7 follow-up. Each administration of the FLIE and the three daily diaries associated with the recall period (the day of and two days prior to the day of FLIE completion) were considered a "block". Treatment or follow-up days 1–3 were considered block A, days 3–5 were block B, days 5–7 were block C, and days 7–10 were block D. For each block, the average of the three daily diary scores were calculated.

Statistical analysis

Available patient demographic data were summarised using descriptive statistics. Responses for patients who have non-zero scores for the FLIE Q1 (how much nausea have you had in the past 3 days?) or Q10 (how much vomiting have you had in the past 3 days?), and non-zero scores for the associated daily general nausea and vomiting questions were analysed. For example, analysis for FLIE completed at follow-up day 10 utilized the nausea and vomiting scores on diary days 8, 9, and 10 follow-ups. If an individual

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Table 1 Demographics and patient characteristics

Patient characteristics	Value (N=89)
Treatment group	
Palonosetron	39 (43.8%)
Ondansetron	31 (34.8%)
Aprepitant/granisetron	19 (21.4%)
Age at enrollment (years)	
n	58
Mean ± SD	69.3±13.6
Median (inter-quartiles)	70.5 (64.0, 79.0)
Min, max	33.0, 91.0
KPS	
n	53
Mean ± SD	70.2±13.9
Gender	
Female	26 (29.2%)
Male	32 (36.0%)
Unknown*	31 (34.8%)
Primary cancer site	
Prostate	27 (30.3%)
Breast	22 (24.7%)
Lung	13 (14.6%)
Bladder	6 (6.7%)
Other/unknown	21 (23.6%)
Radiation dose (Gy)	
8	59 (66.3%)
20	23 (25.8%)
30	7 (7.9%)
Emetogenic risk of radiation site	
Low	51 (57.3%)
Moderate	38 (42.7%)

*, gender was not recorded for the ondansetron study.

completed more than one FLIE, a random block was selected for analysis such that those who completed multiple FLIE questionnaires were not overrepresented.

Descriptive statistical analyses were performed to summarise demographic information, using mean, standard deviation (SD), median, inter-quartiles, and range for continuous variables, and percentages for categorical variables. To calculate concordance between the FLIE nausea question (Q1) and the daily, most severe, and three-day average responses to nausea severity, scores from both scales were first transformed to a continuous scale of 0–100, where "0" represented no nausea, and "100" represented a FLIE nausea score of "7" or a daily diary score of "severe". The concordance correlation coefficient (r_c) with associated 95% confidence interval (CI) was then calculated. A value of r_c=+1 corresponds to perfect agreement; a value of r_c=–1 corresponds to perfect negative agreement; and a value of r_c=0 corresponds to no agreement. The same procedure was performed for vomiting, using FLIE vomiting question (Q10) and the daily responses to vomiting severity. Similarly, the concordance correlation coefficient was calculated between the FLIE nausea or vomiting question and the daily, most severe, or 3-day average response of "enjoyment of life". Statistical analysis was performed using Statistical Analysis Software (SAS version 9.4 for Windows, Cary, NC, USA).

Results

Patient demographics are presented on *Table 1*. In total, there were 89 patients who had nausea or vomiting who were analysed, of which 39 were from the palonosetron study, 31 were from the ondansetron study, and 19 were from the aprepitant/granisetron study. *Table 2* summarises the number of patients who had FLIE responses with nausea or vomiting according to the three anti-emetic trials. Summaries of the scaled responses to FLIE questions 1–18 for all studies are presented on *Table S1* for responses at baseline and during treatment, and on *Table S2* for responses during follow-up. Summaries of the scaled responses to the daily diary questions on nausea and vomiting are presented on *Table S3* for during treatment, and *Table S4* for during follow-up.

As *Table 3* shows, the highest overall concordance for FLIE nausea Q1 was found to be with the 3-day average of the daily diary nausea responses for both the treatment period (r_c=0.698, 95% CI: 0.495, 0.829) and the follow-up period (r_c=0.821, 95% CI: 0.711, 0.892). On the other hand, the FLIE vomiting Q10 had the highest concordance with the daily diary vomiting responses on the worst day during treatment (r_c=0.310, 95% CI: 0.194, 0.417) or the two days prior during follow-up periods (r_c=0.902, 95% CI: 0.832, 0.944).

The concordance between FLIE nausea Q1 and the

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Table 2 Number of FLIE and daily diary response during study and follow-up

Time FLIE	Total (n=89)	Palonosetron (n=39)	Ondansetron (n=31)	Aprepitant/granisetron (n=19)
Baseline	58	39		19
Day 3 during	30		30	
Day 5 during	12	12		
Day 7 during	27		27	
Day 10 during	3	3		
Day 3 follow-up	31	31		
Day 5 follow-up	17			17
Day 7 follow-up	30	30		
Day 10 follow-up	16			16
Daily diaries				
Day 1 during	44	16	28	
Day 2 during	26	16	10	
Day 3 during	26	16	10	
Day 4 during	26	16	10	
Day 5 during	25	15	10	
Day 6 during	21	12	9	
Day 7 during	21	12	9	
Day 1 follow-up	57	38		19
Day 2 follow-up	57	38		19
Day 3 follow-up	57	38		19
Day 4 follow-up	57	38		19
Day 5 follow-up	57	38		19
Day 6 follow-up	56	37		19
Day 7 follow-up	56	37		19
Day 8 follow-up	56	37		19
Day 9 follow-up	54	35		19
Day 10 follow-up	55	36		19

daily responses to nausea severity according to each block are presented on *Table 4*; concordances for vomiting are on *Table 4*. The day with the highest concordance appeared to vary with the date of FLIE administration. The strongest r_c for FLIE administered during the treatment period was found for early on in the treatment period at Block A, where FLIE responses at day 3 were most closely correlated with the 1-day prior (day 2) response to nausea (r_c=0.850, 95% CI: 0.577, 0.952). At the follow-up period, the strongest concordance was between FLIE administered on day 10 follow-up and the average of the three-day diary responses (r_c=0.894, 95% CI: 0.718, 0.962). For FLIE vomiting scores during treatment, the strongest concordance was found between the FLIE vomiting response at day 7 and the 1-day prior (day 6) daily diary response (r_c=0.723, 95% CI: 0.330, 0.902). At follow-up, the strongest concordance was between the FLIE administered on day 10 of follow-up and the 3-day average daily diary response (r_c=0.987, 95% CI: 0.962, 0.996).

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Table 3 Overall covariance between FLIE Q1 nausea and Q10 vomiting questions and the daily diary responses during study and follow-up

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Nausea responses				
Between FLIE nausea Q1 response and daily response to nausea severity				
From two days before	39	0.636 (0.406, 0.790)	48	0.637 (0.432, 0.779)
From one day before	21	0.558 (0.170, 0.797)	47	0.787 (0.655, 0.873)
From same day	21	0.485 (0.120, 0.734)	47	0.746 (0.581, 0.852)
From average day	39	0.698 (0.495, 0.829)	48	0.821 (0.711, 0.892)
From worst day	39	0.613 (0.423, 0.752)	48	0.760 (0.609, 0.857)
Vomiting responses				
Between FLIE vomiting Q10 response and daily response to vomiting severity				
From two days before	38	0.295 (0.164, 0.415)	48	0.902 (0.832, 0.944)
From one day before	21	0.264 (0.047, 0.456)	48	0.082 (–0.193, 0.345)
From same day	21	0.243 (0.004, 0.456)	48	0.678 (0.565, 0.766)
From average day	39	0.294 (0.147, 0.428)	48	0.873 (0.782, 0.928)
From worst day	39	0.310 (0.194, 0.417)	48	0.543 (0.422, 0.644)

To determine which day the FLIE nausea and vomiting responses best reflected enjoyment of life, the calculated concordances were compared and presented on *Table 5*. FLIE nausea responses had the highest concordance with the one-day prior enjoyment of life response during treatment (r_c=0.489, 95% CI: –0.110, 0.827) and during follow-up (r_c=0.323, 95% CI: –0.257, 0.723). For the FLIE vomiting response, the highest concordance was with the enjoyment of life question answered two-days before during treatment (r_c=0.407, 95% CI: 0.002, 0.698) and follow-up (r_c=0.200, 95% CI: –0.060, 0.434).

Table 6 presents the results concordance between FLIE nausea and vomiting with daily diary responses for enjoyment of life within individual blocks. The highest concordance for nausea and QoL during treatment was found in block B for the prior day response (r_c=0.696, 95% CI: –0.933, 0.998). For follow-up, the highest concordance was in block D, for the 3-day average response (r_c=0.817, 95% CI: 0.241, 0.967). For vomiting responses, the highest concordance during treatment was found in Block C, corresponding to the prior day daily diary response (r_c=0.429, 95% CI: –0.999, 0.999). During follow-up, highest concordance was on prior day response and FLIE vomiting in block D (r_c=0.458, 95% CI: –0.999, 0.999).

Discussion

Overall, the results suggested that FLIE questionnaires are most representative of the average experience of nausea across the three-day recall period. However, due to low sample sizes, especially during treatment period, the r_c values were associated with very large CIs in many blocks. Results for the FLIE vomiting question suggested that it is slightly more representative of the vomiting experienced on the worst day, or the first day within the three-day recall period. However, in both cases for vomiting, the concordance of the average day response followed very closely. When concordance was evaluated within each administration of FLIE (within a block), the differences between the daily diary response became more pronounced, but also more inconsistent with regards to whether the highest concordance was with daily responses from a particular day, the worst day, or average of the 3 days. Therefore, this variation likely contributed to an averaging of the individual effects, which led to a reduced overall concordance correlation.

Analyses of cancer pain reporting have suggested that recall of worst pain, rather than pain averaged across a recall period, better reflects the overall experience of pain (12). Our results have found that the worst nausea or vomiting does

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Table 4 Covariance between FLIE Q1 nausea and Q10 vomiting questions at each administration ("block") and the daily diary responses during study and follow-up

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Nausea responses				
Block A				
Between FLIE nausea Q1 response at day 3 and daily response to nausea severity				
From day 1	27	0.726 (0.505, 0.858)	31	0.364 (0.014, 0.634)
From day 2	10	0.850 (0.577, 0.952)	31	0.816 (0.669, 0.901)
From day 3	10	0.558 (0.009, 0.849)	30	0.530 (0.201, 0.751)
From day 1–3 (average)	27	0.827 (0.692, 0.906)	31	0.686 (0.476, 0.822)
From day 1–3 (worst)	27	0.740 (0.607, 0.832)	31	0.596 (0.316, 0.780)
Block B				
Between FLIE nausea Q1 response at day 5 and daily response to nausea severity				
From day 3	12	0.604 (0.023, 0.880)	17	0.773 (0.567, 0.888)
From day 4	12	0.313 (–0.355, 0.769)	17	0.789 (0.529, 0.913)
From day 5	12	0.416 (–0.163, 0.781)	17	0.365 (–0.134, 0.717)
From day 3–4 (average)	12	0.573 (–0.048, 0.874)	17	0.707 (0.451, 0.856)
From day 3–4 (worst)	12	0.385 (–0.129, 0.735)	17	0.803 (0.528, 0.926)
Block C				
Between FLIE nausea Q1 response at day 7 and daily response to nausea severity				
From day 5	10	0.456 (–0.090, 0.791)	30	0.547 (0.274, 0.738)
From day 6	9	0.527 (–0.211, 0.882)	29	0.750 (0.530, 0.875)
From day 7	9	0.333 (–0.454, 0.828)	29	0.888 (0.772, 0.946)
From day 5–7 (average)	10	0.481 (–0.176, 0.842)	30	0.817 (0.680, 0.899)
From day 5–7 (worst)	10	0.456 (–0.090, 0.791)	30	0.847 (0.696, 0.926)
Block D				
Between FLIE nausea Q1 response at day 10 and daily response to nausea severity				
From day 8	No daily response after day 7		16	0.842 (0.577, 0.947)
From day 9			16	0.587 (0.343, 0.757)
From day 10			16	0.792 (0.504, 0.922)
From day 8–10 (average)			16	0.894 (0.718, 0.962)
From day 8–10 (worst)			16	0.801 (0.534, 0.923)

Table 4 (*continued*)

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Table 4 (*continued*)

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Vomiting responses				
Block A				
Between FLIE vomiting Q10 response at day 3 and daily response to vomiting severity				
From day 1	28	–0.023 (–0.195, 0.150)	31	0.242 (–0.129, 0.553)
From day 2	10	–0.068 (–0.376, 0.255)	31	–0.058 (–0.405, 0.304)
From day 3	10	0.021 (–0.282, 0.320)	31	0.855 (0.782, 0.905)
From day 1–3 (average)	28	0.010 (–0.162, 0.182)	31	0.743 (0.553, 0.860)
From day 1–3 (worst)	28	0.070 (–0.093, 0.230)	31	0.592 (0.407, 0.730)
Block B				
Between FLIE vomiting Q10 response at day 5 and daily response to vomiting severity				
From day 3	11	NA	17	NA
From day 4	12	0.403 (0.057, 0.663)	17	NA
From day 5	12	NA	17	NA
From day 3–4 (average)	12	0.667 (0.110, 0.905)	17	NA
From day 3–4 (worst)	12	0.403 (0.057, 0.663)	17	NA
Block C				
Between FLIE vomiting Q10 response at day 7 and daily response to vomiting severity				
From day 5	10	0.517 (0.197, 0.737)	29	0.257 (–0.090, 0.547)
From day 6	8	0.723 (0.330, 0.902)	29	NA
From day 7	9	0.675 (0.210, 0.891)	29	0.789 (0.626, 0.885)
From day 5–7 (average)	10	0.621 (0.242, 0.836)	30	0.721 (0.610, 0.805)
From day 5–7 (worst)	10	0.517 (0.197, 0.737)	30	0.812 (0.692, 0.888)
Block D				
Between FLIE vomiting Q10 response at day 10 and daily response to vomiting severity				
From day 8	No daily response after day 7		16	0.879 (0.670, 0.959)
From day 9			16	0.394 (–0.149, 0.755)
From day 10			16	0.744 (0.555, 0.860)
From day 8–10 (average)			16	0.987 (0.962, 0.996)
From day 8–10 (worst)			16	0.781 (0.711, 0.836)

correlate adequately with FLIE nausea and vomiting, but it is not consistently the response with the best concordance ratio when compared with responses from other days or the average of the three days.

Analysis of FLIE nausea and vomiting with enjoyment of life showed that there was a weak and inconsistent relationship with the particular date of enjoyment of life assessed. This variation pointed to the difficulty of assessing and interpreting the results from different symptom measures as even within a single tool, there was

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Table 5 Overall covariance between FLIE Q1 nausea and Q10 vomiting questions and the daily diary responses to enjoyment of life during study and follow-up

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Nausea responses				
Between FLIE nausea Q1 response and daily response to enjoyment of life				
From two days before	9	0.362 (–0.238, 0.763)	17	0.151 (–0.369, 0.598)
From one day before	7	0.489 (–0.110, 0.827)	15	0.323 (–0.257, 0.732)
From same day	6	0.447 (–0.536, 0.915)	16	0.270 (–0.264, 0.677)
From average day	12	0.337 (–0.210, 0.724)	26	0.228 (–0.177, 0.567)
From worst day	12	0.322 (–0.193, 0.698)	26	0.245 (–0.153, 0.574)
Vomiting responses				
Between FLIE vomiting Q10 response and daily response to enjoyment of life				
From two days before	9	0.407 (0.002, 0.698)	17	0.200 (–0.060, 0.434)
From one day before	7	0.379 (–0.156, 0.742)	14	0.098 (–0.154, 0.337)
From same day	6	0.282 (–0.589, 0.850)	16	0.115 (–0.194, 0.404)
From average day	12	0.300 (–0.081, 0.604)	26	0.162 (–0.084, 0.389)
From worst day	12	0.300 (–0.053, 0.587)	26	0.166 (–0.063, 0.379)

Table 6 Covariance between FLIE Q1 nausea and Q10 vomiting questions at each administration ("block") and the daily diary responses to enjoyment of life during study and follow-up

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Nausea responses				
Block A				
Between FLIE nausea Q1 response at day 3 and daily response to enjoyment of life				
From day 1	4	–0.505 (–0.999, 0.986)	12	–0.098 (–0.593, 0.451)
From day 2	3	0 (–0.005, 0.005)	9	0.469 (–0.187, 0.836)
From day 3	3	0.107 (–1, 1)	11	0.106 (–0.550, 0.681)
From day 1–3 (average)	6	0.074 (–0.713, 0.778)	19	0.135 (–0.349, 0.562)
From day 1–3 (worst)	6	0.108 (–0.641, 0.751)	19	0.190 (–0.289, 0.592)

Table 6 (*continued*)

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Table 6 (*continued*)

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Block B				
Between FLIE nausea Q1 response at day 5 and daily response to enjoyment of life				
From day 3	4	NA	2	NA
From day 4	4	0.696 (–0.933, 0.998)	3	–0.139 (–1, 1)
From day 5	4	0.631 (–1, 1)	2	NA
From day 3–4 (average)	6	0.419 (–0.562, 0.910)	3	–0.510 (–1, 1)
From day 3–4 (worst)	6	0.419 (–0.562, 0.910)	3	–0.585 (–1, 1)
Block C				
Between FLIE nausea Q1 response at day 7 and daily response to enjoyment of life				
From day 5	3	0.429 (–1, 1)	7	0.426 (–0.316, 0.844)
From day 6	3	0.290 (–1, 1)	7	0.272 (–0.675, 0.880)
From day 7	2	NA	6	0.346 (–0.626, 0.897)
From day 5–7 (average)	3	0.423 (–1, 1)	10	0.365 (–0.376, 0.822)
From day 5–7 (worst)	3	0.428 (–1, 1)	10	0.365 (–0.376, 0.822)
Block D				
Between FLIE nausea Q1 response at day 10 and daily response to enjoyment of life				
From day 8	No daily response after day 7		3	0.684 (–1, 1)
From day 9			3	0.623 (–1, 1)
From day 10			3	0.793 (–0.859, 0.998)
From day 8–10 (average)			4	0.817 (0.241, 0.967)
From day 8–10 (worst)			4	0.690 (–0.759, 0.991)
Vomiting responses				
Block A				
Between FLIE vomiting Q10 response at day 3 and daily response to enjoyment of life				
From day 1	4	0.119 (–0.759, 0.843)	12	0.070 (–0.442, 0.548)
From day 2	3	0.327 (–0.999, 0.999)	9	–0.044 (–0.456, 0.383)
From day 3	3	0.221 (–0.991, 0.996)	11	0.176 (–0.270, 0.559)
From day 1–3 (average)	6	0.172 (–0.218, 0.515)	19	0.155 (–0.161, 0.442)
From day 1–3 (worst)	6	0.164 (–0.198, 0.486)	19	0.162 (–0.130, 0.428)

Table 6 (*continued*)

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Table 6 (*continued*)

Variables assessed	During treatment period		At follow-up period	
	No. of patients	r_c (95% CI)	No. of patients	r_c (95% CI)
Block B				
Between FLIE vomiting Q10 response at day 5 and daily response to enjoyment of life				
From day 3	4	NA	2	NA
From day 4	4	–0.254 (–0.988, 0.967)	3	0 (–0.002, 0.002)
From day 5	3	–0.375 (–1, 1)	2	NA
From day 3–4 (average)	6	–0.155 (–0.841, 0.723)	3	0 (–0.002, 0.002)
From day 3–4 (worst)	6	–0.155 (–0.841, 0.723)	3	0 (–0.001, 0.001)
Block C				
Between FLIE vomiting Q10 response at day 7 and daily response to enjoyment of life				
From day 5	3	0.305 (–0.999, 1)	7	–0.167 (–0.545, 0.269)
From day 6	3	0.429 (–0.999, 0.999)	7	–0.107 (–0.347, 0.147)
From day 7	2	NA	6	0 (0, 0)
From day 5–7 (average)	3	0.422 (–1, 1)	10	–0.053 (–0.472, 0.386)
From day 5–7 (worst)	3	0.305 (–0.999, 1)	10	–0.053 (–0.472, 0.386)
Block D				
Between FLIE vomiting Q10 response at day 10 and daily response to enjoyment of life				
From day 8	No daily response after day 7		3	0.300 (–0.999, 1)
From day 9			3	0.458 (–0.999, 0.999)
From day 10			3	0.305 (–0.999, 1)
From day 8–10 (average)			4	0.413 (–0.727, 0.947)
From day 8–10 (worst)			4	0.264 (–0.736, 0.902)

significant variation depending on the particular association investigated and period of administration.

One limitation of our study was the small sample size, which limited the generalisability and the clinical significance of the findings. This was particularly problematic for the vomiting scores and the enjoyment of life analysis. Very few patients experienced vomiting and we therefore had low numbers eligible for analysis. Larger studies are needed for smaller CIs and for more definitive interpretation of the results.

This study contributes to an area of study with limited existing research. The determination of whether the FLIE represents average, daily, or most severe nausea and vomiting will allow healthcare providers to better interpret patient-reported symptoms, and will inform the design and wording of surveys to more accurately reflect the aspect of the symptom they are aiming to evaluate.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

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Ethical Statement: The study was approved by the Hospital Research Ethics Board and Health Canada (ondansetron: No. 102-2013, aprepitant/granisetron: No. 257-2010; palonosetron: No. 434-2013) and patients provided written informed consent prior to enrollment.

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Supplementary

Table S1 Summary of responses to FLIE questions during baseline and treatment

FLIE Q1–Q18	Baseline	Day 3 during treatment	Day 5 during treatment	Day 7 during treatment	Day 10 during treatment
Q1, n	58	29	12	27	3
Mean ± SD	5.46±15.10	4.02±10.59	9.72±13.22	5.56±12.23	22.22±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	16.7 (16.7, 33.3)
Range	0, 67	0, 33	0, 33	0, 33	17, 33
Q2, n	58	30	12	26	3
Mean ± SD	4.89±17.38	2.22±7.24	4.17±10.36	4.49±13.79	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 100	0, 33	0, 33	0, 50	0, 17
Q3, n	58	29	12	26	3
Mean ± SD	3.16±15.75	3.45±13.64	2.78±9.62	3.85±11.84	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 100	0, 67	0, 33	0, 50	0, 17
Q4, n	58	30	12	27	3
Mean ± SD	6.32±20.67	6.67±19.87	8.33±13.29	6.79±16.83	11.11±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	16.7 (0.0, 16.7)
Range	0, 100	0, 100	0, 33	0, 67	0, 17
Q5, n	58	30	12	27	3
Mean ± SD	4.02±14.75	2.78±7.69	4.17±10.36	3.09±10.37	11.11±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	16.7 (0.0, 16.7)
Range	0, 83	0, 33	0, 33	0, 50	0, 17
Q6, n	58	30	12	27	3
Mean ± SD	3.74±15.93	1.67±6.71	4.17±10.36	3.09±9.29	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 100	0, 33	0, 33	0, 33	0, 17
Q7, n	58	30	12	27	3
Mean ± SD	3.45±14.22	2.22±7.24	2.78±6.49	3.70±9.62	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 83	0, 33	0, 17	0, 33	0, 17
Q8, n	58	30	12	27	3
Mean ± SD	5.17±17.99	3.33±9.18	4.17±7.54	4.94±12.07	11.11±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 8.3)	0.0 (0.0, 0.0)	16.7 (0.0, 16.7)
Range	0, 83	0, 33	0, 17	0, 50	0, 17
Q9, n	58	30	12	27	3
Mean ± SD	3.74±13.62	2.22±8.46	4.17±10.36	4.32±13.55	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 83	0, 33	0, 33	0, 50	0, 17
Q10, n	58	30	12	27	3
Mean ± SD	1.15±6.88	1.11±4.23	1.39±4.81	3.70±9.62	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 50	0, 17	0, 17	0, 33	0, 0
Q11, n	58	30	12	27	3
Mean ± SD	0.29±2.19	0.56±3.04	0.00±0.00	3.70±11.63	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 17	0, 17	0, 0	0, 50	0, 0
Q12, n	58	29	12	27	3
Mean ± SD	0.29±2.19	0.00±0.00	0.00±0.00	3.70±11.63	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 17	0, 0	0, 0	0, 50	0, 0
Q13, n	58	30	12	27	3
Mean ± SD	1.15±5.28	0.56±3.04	2.78±9.62	5.56±20.15	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 33	0, 17	0, 33	0, 100	0, 17
Q14, n	58	30	12	27	3
Mean ± SD	0.86±4.86	0.56±3.04	1.39±4.81	5.56±20.15	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 33	0, 17	0, 17	0, 100	0, 17
Q15, n	58	30	12	27	3
Mean ± SD	0.29±2.19	0.56±3.04	0.00±0.00	2.47±10.03	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 17	0, 17	0, 0	0, 50	0, 0
Q16, n	58	29	12	27	3
Mean ± SD	0.29±2.19	0.57±3.10	0.00±0.00	3.70±11.63	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 17	0, 17	0, 0	0, 50	0, 0
Q17, n	58	30	12	27	3
Mean ± SD	0.57±4.38	1.11±4.23	0.00±0.00	4.32±10.93	5.56±9.62
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)
Range	0, 33	0, 17	0, 0	0, 33	0, 17
Q18, n	58	30	12	26	3
Mean ± SD	0.86±4.86	0.56±3.04	0.00±0.00	3.21±9.45	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 33	0, 17	0, 0	0, 33	0, 0

Table S2 Summary of responses to FLIE questions during follow-up

FLIE Q1–Q18	Day 3 Follow-up	Day 5 Follow-up	Day 7 Follow-up	Day 10 Follow-up
Q1, n	31	17	30	16
Mean ± SD	14.52±25.36	7.84±17.79	13.45±23.67	8.33±18.26
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 8.3)
Range	0, 100	0, 67	0, 83	0, 67
Q2, n	30	17	30	16
Mean ± SD	12.22±22.71	9.80±26.39	12.22±23.95	7.29±20.16
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)
Range	0, 83	0, 100	0, 83	0, 67
Q3, n	31	17	30	16
Mean ± SD	13.98±26.21	12.75±29.77	11.67±26.68	6.25±17.08
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 100	0, 100	0, 100	0, 50
Q4, n	31	17	30	16
Mean ± SD	20.43±31.54	9.80±26.39	16.67±29.03	8.33±21.94
Median (Q1, Q3)	0.0 (0.0, 50.0)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)
Range	0, 100	0, 100	0, 100	0, 83
Q5, n	30	17	30	16
Mean ± SD	10.56±20.29	1.96±5.54	7.78±18.43	4.17±11.38
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 67	0, 17	0, 67	0, 33
Q6, n	31	17	30	16
Mean ± SD	13.98±27.25	10.78±28.22	12.22±25.12	6.25±20.97
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)
Range	0, 100	0, 100	0, 100	0, 83
Q7, n	31	17	30	16
Mean ± SD	13.44±25.25	9.80±26.39	11.11±22.88	7.29±21.05
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)
Range	0, 83	0, 100	0, 83	0, 83
Q8, n	31	17	30	16
Mean ± SD	18.28±26.30	5.88±14.36	13.33±26.41	7.29±20.16
Median (Q1, Q3)	0.0 (0.0, 33.3)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)
Range	0, 83	0, 50	0, 100	0, 67
Q9, n	31	17	30	16
Mean ± SD	14.52±26.44	7.84±18.74	10.56±23.36	5.21±16.91
Median (Q1, Q3)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)	0.0 (0.0, 16.7)	0.0 (0.0, 0.0)
Range	0, 100	0, 67	0, 100	0, 67
Q10, n	31	17	30	16
Mean ± SD	4.30±13.59	0.00±0.00	2.22±9.52	3.13±9.06
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 67	0, 0	0, 50	0, 33
Q11, n	30	17	29	16
Mean ± SD	5.56±15.98	0.00±0.00	1.72±9.28	4.17±16.67
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 67	0, 0	0, 50	0, 67
Q12, n	30	17	29	16
Mean ± SD	5.56±15.98	0.00±0.00	1.72±9.28	4.17±16.67
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 67	0, 0	0, 50	0, 67
Q13, n	30	17	29	16
Mean ± SD	6.67±19.87	0.00±0.00	2.30±12.38	5.21±20.83
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 83	0, 0	0, 67	0, 83
Q14, n	30	17	29	16
Mean ± SD	6.67±19.87	0.00±0.00	2.30±12.38	4.17±16.67
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 83	0, 0	0, 67	0, 67
Q15, n	30	17	29	16
Mean ± SD	5.56±17.14	0.00±0.00	2.30±12.38	4.17±16.67
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 83	0, 0	0, 67	0, 67
Q16, n	30	17	29	16
Mean ± SD	5.00±17.04	0.00±0.00	2.30±12.38	4.17±16.67
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 83	0, 0	0, 67	0, 67
Q17, n	30	17	29	16
Mean ± SD	5.56±15.98	0.00±0.00	2.87±12.65	4.17±16.67
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 67	0, 0	0, 67	0, 67
Q18, n	30	17	29	16
Mean ± SD	5.00±13.94	0.00±0.00	2.30±9.68	0.00±0.00
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 50	0, 0	0, 50	0, 0

Table S3 Summary of daily diary responses during treatment

Daily responses	During treatment						
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Nausea severity, n	44	26	26	26	25	21	21
Mean ± SD	7.58±17.41	12.82±21.24	15.38±23.53	17.95±28.64	16.00±27.42	12.70±19.65	12.70±22.30
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)
Range	0, 67	0, 67	0, 67	0, 100	0, 100	0, 67	0, 67
Vomiting severity, n	43	25	25	26	25	19	21
Mean ± SD	3.88±18.13	5.33±20.82	6.67±21.52	12.82±29.93	4.00±20.00	3.51±15.30	6.35±20.05
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 100	0, 100	0, 100	0, 100	0, 100	0, 67	0, 67
Interference of appetite, n	10	16	10	10	8	4	3
Mean ± SD	36.67±29.19	62.29±38.79	40.00±37.84	43.33±31.62	41.67±29.55	33.33±47.14	44.44±50.92
Median (Q1, Q3)	33.3 (33.3, 33.3)	61.7 (33.3, 100.0)	33.3 (0.0, 66.7)	33.3 (33.3, 66.7)	33.3 (33.3, 50.0)	16.7 (0.0, 66.7)	33.3 (0.0, 100.0)
Range	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100
Interference of sleep, n	10	9	9	10	8	4	3
Mean ± SD	6.67±14.05	25.92±32.39	33.33±37.27	30.00±42.89	29.17±37.53	33.33±47.14	33.33±33.34
Median (Q1, Q3)	0.0 (0.0, 0.0)	33.3 (0.0, 33.3)	33.3 (0.0, 66.7)	0.0 (0.0, 66.7)	16.7 (0.0, 50.0)	16.7 (0.0, 66.7)	33.3 (0.0, 66.7)
Range	0, 33	0, 100	0, 100	0, 100	0, 100	0, 100	0, 67
Interference of physical activity, n	10	9	9	10	8	4	3
Mean ± SD	10.00±16.10	7.41±14.70	18.52±33.79	26.67±37.84	25.00±38.83	33.33±47.14	22.22±38.49
Median (Q1, Q3)	0.0 (0.0, 33.3)	0.0 (0.0, 0.0)	0.0 (0.0, 33.3)	0.0 (0.0, 66.7)	0.0 (0.0, 50.0)	16.7 (0.0, 66.7)	0.0 (0.0, 66.7)
Range	0, 33	0, 33	0, 100	0, 100	0, 100	0, 100	0, 67
Interference of social life, n	10	9	9	10	8	4	3
Mean ± SD	6.67±14.05	14.81±24.22	18.52±33.79	33.33±35.14	25.00±34.50	25.00±50.00	22.22±38.49
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	33.3 (0.0, 66.7)	16.7 (0.0, 33.3)	0.0 (0.0, 50.0)	0.0 (0.0, 66.7)
Range	0, 33	0, 67	0, 100	0, 100	0, 100	0, 100	0, 67
Interference of enjoyment of life, n	10	9	9	10	8	4	3
Mean ± SD	16.67±17.57	18.52±24.22	22.22±33.33	33.33±41.57	33.33±43.64	25.00±50.00	22.22±38.49
Median (Q1, Q3)	16.7 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	16.7 (0.0, 66.7)	16.7 (0.0, 66.7)	0.0 (0.0, 50.0)	0.0 (0.0, 66.7)
Range	0, 33	0, 67	0, 100	0, 100	0, 100	0, 100	0, 67

Table S4 Summary of daily diary responses during follow-up

Daily responses	At follow-up period									
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
Nausea severity, n	57	57	56	57	57	56	56	56	54	55
Mean ± SD	9.36±19.67	8.19±19.19	9.52±19.81	8.77±17.28	6.43±14.69	10.12±20.02	8.33±20.35	15.48±27.68	11.11±24.23	13.33±25.34
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 33.3)	0.0 (0.0, 0.0)	0.0 (0.0, 33.3)
Range	0, 67	0, 67	0, 67	0, 67	0, 67	0, 67	0, 67	0, 100	0, 100	0, 100
Vomiting severity, n	57	57	57	57	56	56	56	56	54	55
Mean ± SD	3.51±12.09	1.17±8.83	2.92±15.79	1.75±9.80	0.60±4.45	1.19±6.24	1.79±9.89	4.76±19.52	3.70±13.99	2.42±10.84
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)	0.0 (0.0, 0.0)
Range	0, 67	0, 67	0, 100	0, 67	0, 33	0, 33	0, 67	0, 100	0, 67	0, 67
Interference of appetite, n	14	12	14	12	10	12	10	15	12	12
Mean ± SD	35.71±27.63	25.00±32.18	38.10±36.65	38.89±27.83	33.33±35.14	38.89±34.33	40.00±34.43	53.33±35.19	47.22±33.21	41.67±32.18
Median (Q1, Q3)	33.3 (0.0, 66.7)	16.7 (0.0, 33.3)	50.0 (0.0, 66.7)	33.3 (16.7, 66.7)	33.3 (0.0, 66.7)	33.3 (0.0, 66.7)	33.3 (0.0, 66.7)	33.3 (33.3, 100.0)	33.3 (33.3, 66.7)	33.3 (16.7, 66.7)
Range	0, 67	0, 100	0, 100	0, 67	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100
Interference of sleep, n	14	12	14	12	11	12	10	15	12	12
Mean ± SD	11.90±28.06	19.44±33.21	21.43±28.06	16.67±22.47	6.06±13.48	20.83±23.70	13.33±23.31	15.55±21.33	13.89±22.29	19.44±33.21
Median (Q1, Q3)	0.0 (0.0, 0.0)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 0.0)	16.7 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)	0.0 (0.0, 33.3)
Range	0, 100	0, 100	0, 67	0, 67	0, 33	0, 67	0, 67	0, 67	0, 67	0, 100
Interference of physical activity, n	14	12	14	12	11	12	10	15	12	12
Mean ± SD	19.05±21.54	22.22±25.95	30.95±27.63	30.56±26.43	24.24±26.21	33.33±34.82	26.66±30.63	28.89±24.77	27.78±27.83	30.55±30.01
Median (Q1, Q3)	16.7 (0.0, 33.3)	16.7 (0.0, 33.3)	33.3 (0.0, 66.7)	33.3 (0.0, 50.0)	33.3 (0.0, 33.3)	33.3 (0.0, 66.7)	33.3 (0.0, 33.3)	33.3 (0.0, 33.3)	33.3 (0.0, 33.3)	33.3 (0.0, 33.3)
Range	0, 67	0, 67	0, 67	0, 67	0, 67	0, 100	0, 100	0, 67	0, 100	0, 100
Interference of social life, n	14	12	14	12	11	12	10	15	12	12
Mean ± SD	16.67±21.68	19.44±22.28	35.72±30.56	30.56±26.43	30.30±31.46	27.78±27.83	26.66±30.63	35.55±34.43	27.78±31.25	33.33±28.43
Median (Q1, Q3)	0.0 (0.0, 33.3)	16.7 (0.0, 33.3)	33.3 (0.0, 66.7)	33.3 (0.0, 50.0)	33.3 (0.0, 33.3)	33.3 (0.0, 50.0)	33.3 (0.0, 33.3)	33.3 (0.0, 66.7)	33.3 (0.0, 33.3)	33.3 (16.7, 33.3)
Range	0, 67	0, 67	0, 67	0, 67	0, 100	0, 67	0, 100	0, 100	0, 100	0, 100
Interference of enjoyment of life, n	14	12	14	12	11	12	10	15	10	12
Mean ± SD	19.05±21.54	33.33±31.78	42.86±35.64	36.11±33.21	33.33±36.51	36.11±33.21	33.33±31.43	44.44±32.53	26.66±30.63	33.33±28.43
Median (Q1, Q3)	16.7 (0.0, 33.3)	33.3 (0.0, 50.0)	66.7 (0.0, 66.7)	33.3 (0.0, 66.7)	33.3 (0.0, 33.3)	33.3 (0.0, 66.7)	33.3 (0.0, 33.3)	33.3 (33.3, 66.7)	33.3 (0.0, 33.3)	33.3 (16.7, 33.3)
Range	0, 67	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100	0, 100