

# OCCURRENCE, SEVERITY AND IMPACT OF CANCER-RELATED FATIGUE IN TAIWANESE CANCER PATIENTS: A NATIONAL SURVEY

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## Background

- Cancer-related fatigue (CRF) is a common symptom in cancer patients.
- There is no study related to occurrence, severity and impact of CRF in Taiwan.
- The aim of this study was to report the occurrence and severity of CRF, and its impact on quality of life (QoL) in cancer inpatients and outpatients in Taiwan.

## Method

### Design

- A cross-sectional design with a national survey.

### Patients

- Recruited from 20 hospitals with in patient unit and outpatients clinics in Taiwan.

### Measurement Tools

- The structured questionnaire was used to assess patients' demographic, clinical and CRF characteristics.
- CRF evaluated by ICD-10, Brief fatigue Inventory (BFI)
- QoL evaluated by FACT-general (FACT-G)

### Data analysis

- Descriptive statistics and bivariate correlations were used to compare the occurrence, severity, and impacts on QoL of CRF between cancer inpatients and outpatients in Taiwan.

## Conclusion

- Although the occurrence based on the ICD-10 CRF criteria was low, **most cancer patients reported they experienced CRF.**
- Inpatients** had significant higher and more severe fatigue.
- Enjoyment of life** was the most interfered by fatigue in both inpatients and outpatients.
- Healthcare providers should pay more attention on CRF prevention and management** to keep or improve QoL of cancer patients.

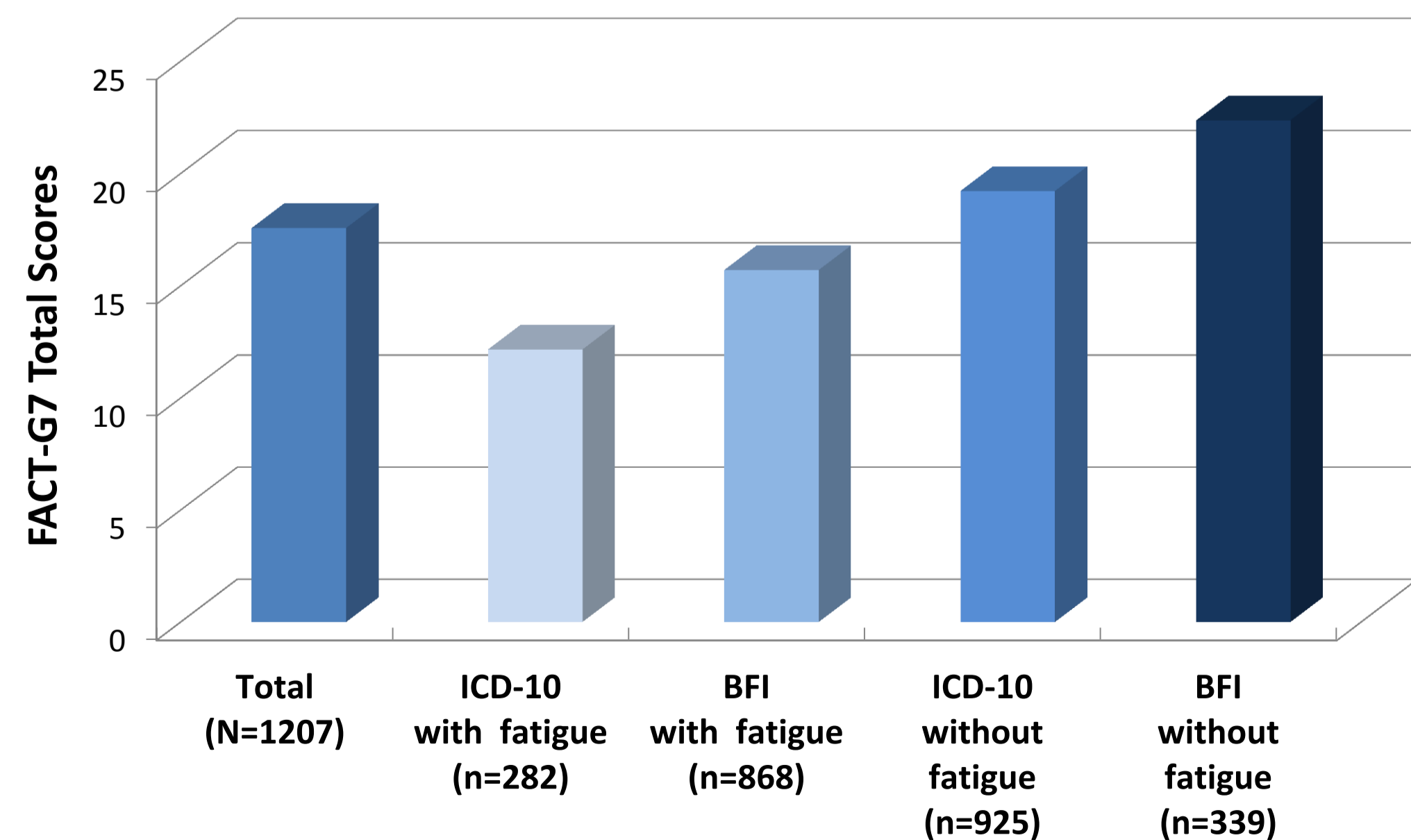
## Acknowledgement

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**Table 1. Demographic Characteristics in CRF (N=1207)**

Demographic Characteristics	Overall (N=1207)	Inpatient (n=574)	Outpatient (n=633)	P value <sup>a</sup>
Mean age, years (SD)	57.12 (12.45)	57.80 (12.55)	56.36 (12.3)	.043
Gender, n (%)				.058
Male	630 (52.2)	316 (55.1)	314 (49.6)	
Female	577 (47.8)	258 (44.9)	319 (50.4)	
Occupational Status, n (%)				.553
No work	845 (70.0)	410 (71.4)	435 (68.7)	
Part-time	67 (5.6)	29 (5.1)	38 (6.0)	
Full-time work	295 (24.4)	135 (23.5)	160 (25.3)	
Family status, n (%)				.036
Live with family	1122 (93.0)	531 (92.5)	591 (93.4)	
Live alone	76 (6.3)	42 (7.3)	34 (5.4)	
other	9 (0.7)	1 (0.2)	8 (1.2)	
Regular Exercise, n (%)				.000
No	669 (55.4)	351 (61.1)	318 (50.2)	
Yes	538 (44.6)	223 (38.9)	315 (49.8)	

Note: <sup>a</sup> analyzed by t-test and chi-square test by comparing the inpatient and outpatient groups.



**Figure 1 Compare QoL by ICD-10 and BFI with fatigue and without fatigue.**

## Result

**Table 2. Clinical Disease Characteristics in CRF (N=1207)**

Clinical Disease Characteristics	Overall (N=1207)	Inpatient (n=574)	Outpatient (n=633)	P value <sup>a</sup>
Stage, n (%)				.002
I	78 (6.5)	26 (4.5)	52 (8.2)	
II	148 (12.3)	60 (10.5)	88 (13.9)	
III	225 (18.6)	97 (16.9)	128 (20.2)	
IV	483 (40.0)	257 (44.8)	226 (35.7)	
Other <sup>b</sup>	273 (22.6)	134 (23.3)	139 (22.0)	
Condition				.000
Primary diagnosis	549 (54.5)	276 (48.1)	273(43.1)	
Recurrence	235 (19.5)	134 (23.3)	101 (16.0)	
Metastasis	529 (43.8)	286 (49.8)	243 (38.4)	
Survivorship	166 (13.8)	21 (3.7)	145 (22.9)	
ECOG				.000
0	354 (29.3)	93(16.2)	261 (41.2)	
1	616 (51.0)	301 (52.4)	315 (49.8)	
2	165 (13.7)	114 (19.9)	51 (8.1)	
3	59 (4.9)	54 (9.4)	5 (0.8)	
4	13 (1.1)	12 (2.1)	1 (0.1)	
Accept treatment during one week				.000
Yes	643 (53.3)	339 (59.1)	304 (48)	
No	564 (46.7)	235 (40.9)	329 (52)	

Note: <sup>a</sup>analyzed by t-test and chi-square test by comparing the inpatient and outpatient groups. <sup>b</sup>carcinoma in situ, unknown stage, liver cancer, leukemia and lymphoma.

**Table 3 QoL evaluated by FACT-G7 (N=1207)**

Variable	Overall (n=1207)	Inpatient (n=574)	Outpatient (n=633)	P-value <sup>a</sup>
Mean scores (SD)				
FACT-G7 Total	17.57 (6.01)	15.68 (6.02)	19.29 (5.48)	.000
Physical well-being	2.97 (0.91)	2.70 (0.97)	3.22 (0.78)	.000
Emotional well-being	2.60 (1.36)	2.39 (1.40)	2.78 (1.30)	.000
Functional well-being	2.02 (1.15)	1.73 (1.10)	2.29 (1.37)	.000

Note: <sup>a</sup> analyzed by t-test by comparing the inpatient and outpatient groups.

- The mean score of FACT-G7 Total was 17.57 in overall with the lowest level of **functional well-being**, and 15.68 and 19.29 in inpatients and outpatients.

**Table 4. Occurrence and Impacts of CRF based on ICD-10 and BFI (N=1207)**

Variable	Inpatient (n=574)	Outpatient (n=633)
Fatigue since cancer diagnosed, n (%)		
Yes	542 (94.4)	568 (89.7)
No	32 (5.6)	65 (10.3)
ICD-10 CRF Diagnosed, n (%)		
Yes	183 (31.9)	99 (15.6)
No	391 (68.1)	534 (84.4)
BFI		
Fatigue unusual in the last week, n (%)		
Yes	459 (80.0)	409 (64.6)
No	115 (20.0)	224 (35.4)
Mean BFI Score (SD)		
Current Fatigue	3.94 (2.62)	2.96 (2.57)
General fatigue (past 24 hours)	3.97 (2.51)	2.96 (2.44)
Worst fatigue (past 24 hours)	5.14 (2.96)	4.06 (3.08)
Interference of fatigue (past 24 hours)	3.01 (2.59)	1.81 (2.16)
- General Activity	3.24 (3.05)	1.85 (2.47)
- Mood	3.04 (2.79)	1.97 (2.52)
- Walking ability	2.97 (3.07)	1.71 (2.43)
- Normal work	3.24 (3.46)	1.93 (2.70)
- Relations with other people	2.20 (2.72)	1.40 (2.23)
- <b>Enjoyment of life</b>	<b>3.35 (3.26)</b>	<b>1.99 (2.75)</b>

- About 94.4% of inpatients and 89.7% of outpatients experienced fatigue since they have been diagnosed with cancer.
- The occurrence of CRF diagnosed by ICD-10 was 31.9% and 15.6% for inpatients and outpatients respectively.
- Inpatients had significant higher fatigue severity** (current fatigue, general fatigue, and worst fatigue) during the past 24 hours compared to the outpatients.
- Enjoyment of life** was the most interfered by fatigue in both inpatients and outpatients.
- The mean levels of current fatigue, general fatigue and worst fatigue were **moderate in inpatients, and they were mild to moderate in outpatients.**