



The Predicting Factors of Quality of Life in Women with Advanced Ovarian Cancer

Ya-Ling Yang, RN, PhD, Assistant Professor

Yeur-Hur Lai, RN, PhD, Professor

School of Nursing

National Taiwan University

7/21/2018

國立臺灣大學 National Taiwan University

Introduction

- Ovarian cancer (OC) is ranked as the 7th most common cancer in Taiwan and worldwide.
- In Taiwan, among the 900 newly diagnosed women, 59.50% of them were in advanced stage (Bureau of Health Promotion, 2015).
- Due to the advanced status, majority of newly diagnosed cases (65.68%) were treated combined surgery and chemotherapy.

- Fortunately, advances in surgical and chemotherapy improved the overall survival. The relative survival rates of newly diagnosed OC cases from 1 to 5 years (2007 to 2011) were 87.5%, 78.9%, 73.0%, 68.3% and 64.8%, respectively (Taiwan Cancer Registry, 2014).
- Surgery, chemotherapy, and/or repeatedly occurring negative effects from physical and psychological symptoms might influence patients' quality of life (QoL).

Research Aims

1. To compare the QoL among ovarian cancer patients in five different treatment phases: newly diagnosed (ND)& pre-OP, ND with chemotherapy (C/T) , ND post treatment (survivor with disease-free), recurrence & pre-OP, recurrence with C/T in women with ovarian cancer.
2. To explore predicting factors for QoL in women with advanced ovarian cancer.

Methods

- **Study design:** A cross-sectional study
- **Setting:** We conducted the study in GYN in- & out-patient wards of a medical center in Northern Taiwan; In this hospital, every year , there is about 100 newly diagnosed OC among the total 400 newly diagnosed GYN cancers.
- **Subjects:** Women diagnosed with ovarian cancer (OC) and who agree to participate the study after understanding the purposes of the study.

MEASURES

➤ Dependent Variables

- ◆ **Quality of Life Scale** (EORCT QLQ-C30; Chinese version) Multiple domain
 - ✓ **Global health status.** *High score means high health stats*
 - ✓ **Functional scales:** including *Physical, Role, Emotional, Cognitive & Social functioning.*
High score means high healthy functioning
 - ✓ **Symptom scales/ Items :** *Fatigue, Nausea, Pain, Sleep, Appetite, Constipation & Diarrhea*
High score represents more symptom / problems
- ◆ **The Cronbach's alpha was 0.86.**

➤ Independent Variables

- ◆ EORCT QLQ-OV28: A symptom scales /Items consists of 28 items (7 domains) to assess: *abdominal/GI, peripheral neuropathy, other chemotherapy side effects, hormonal, body image, attitudes to disease/treatment, & sexuality.*
- ◆ High score means high symptom or problem.
- ◆ Cronbach's alpha was 0.93.

- ◆ **Pittsburgh Sleep Quality Index (PSQI):** is a 7-domain, self-report scale about the sleep quality in the current month. Cronbach's alpha was 0.94.
 - ◆ In this study, we used the **PSQI total score:** it ranged from 0 to 21 with high score indicates **poor** sleep quality.
 - ◆ **Subjective Sleep Quality** (0~3→very well to very poor)
- ◆ **International Physical Activity Questionnaire (IPAQ) :** we used the patient's self-compared her physical activity between last week and activity in 3 months ago; It includes 3 options –
1:more, 2: less, 3: no difference

◆ Background Information

- ◆ **Self-report questionnaire:** including educational years, marital status, employed status, gravida, parity & age of menopause.
- ◆ **Medical records:** Clinical and pathologic stage (FIGO), prognosis, disease-free or recurrence, chemotherapy (C/T) regimen and drugs, times of C/T and current BMI.

➤ Procedures

- This study was approved by the institutional review board (IRB) from the National Taiwan University Hospital (No. 201505018RINA).
- Eligible participants who approached and completed the informed consent, then were provided study's questionnaires.
- We screened and recruited those eligible subjects in both in- and out-patients wards.

➤ **Statistical analysis**

- We used the R 3.4.2 software (R Foundation for Statistical Computing, Vienna, Austria) to analyze the data.
- **Descriptive analysis:** Mean \pm SD, categorical variables - frequency and percentage.
- **Compare analysis:** Non-parametric test- Mann-Whitney U & Kruskal-Wallis H
- **Multivariate linear stepwise regression:** to examine the effects of independent variables.

Results

- ◆ A total of 183 subjects completed the assessments.
- ◆ For the purposes of this study, five groups were divided based on their treatment status:

Subgroups

- I:** Newly diagnosed (ND) & pre-OP (n=84)
- II:** Recurrence & pre-OP (n=8)
- III:** ND undergoing C/T (n=50)
- IV:** ND completion of Tx & Disease-free (n=10)
- V:** Recurrence with chemo therapy (n=31)

Table 1 Differences among the five Sub-groups

Subgroup Item		I	II	III	IV	V	Comparison Pearson Chi $\sqrt{2}$ test
		ND pre-op n = 84	Recur. pre-op n = 8	ND C/T n = 50	Dis free n = 10	Recur. C/T n = 31	
Patho- stage n (%)	I	28 (33.3)	4 (50.0)	29 (58.0)	7 (70.0)	2 (6.5)	39.53**
	II	9 (10.7)	0	6 (12.0)	0	1 (3.2)	
	III	38 (45.2)	4 (50.0)	14 (28.0)	1 (10.0)	24 (77.4)	
	IV	9 (10.7)	0	1 (2.0)	2 (20.0)	4 (12.9)	
Educational year n (%)	< 6	1 (1.2)	0	0	0	3 (9.7)	31.93*
	6	12 (14.3)	1 (12.5)	4 (8.0)	1 (10.0)	6 (19.4)	
	9	14 (16.7)	1 (12.5)	2 (4.0)	1 (10.0)	1 (3.2)	
	12	22 (26.2)	2 (25.0)	21 (42.0)	2 (20.0)	8 (25.8)	
	16	27 (32.1)	4 (50.0)	18 (36.0)	3 (30.0)	13 (41.9)	
	>16	8 (9.5)	0	5 (10.0)	3 (30.0)	0	

The mean age of the population was 55.03 (11.76) yrs, & Marriage status were no difference across groups. Natural menopause n (%) = 109 (59.56%)

Table 2 Comparing the EORTC QLQ-C30 among the subgroup

C30	Overall	I	II	III	IV	V	R-S* test <i>p</i>
Global health	60.20 (21.70)	58.73 (21.99)	46.88 (25.17)	67.00 (18.52)	66.67 (21.87)	54.57 (22.14)	0.025
Insomnia	28.23 (32.75)	29.36 (33.30)	54.17 (24.80)	24.67 (29.97)	13.33 (23.31)	29.03 (37.26)	0.049
Constipation	13.30 (24.69)	19.44 (29.82)	16.67 (35.63)	9.33 (16.55)	0	6.45 (15.91)	0.032

- No difference across all function domains among 5 subgrs
 - The overall mean score of QoL is 85.28 (20.57)
 - Emotional domain is ranked as the lowest: 79.78(SD=20.23)
 - Social function domain is the second low: 83.42 (SD=23.21)
- Overall symptom is 14.71 (SD=25.65)**

Fatigue 22.83 (SD=23.72); Pain 14.94 (SD=22.61)

Table 3 Comparing the EORTC QLQ-OV 28 among the subgroup

	Total	I	II	III	IV	V	R-S* test p
GI	15.79 (16.07)	19.84 (16.66)	18.45 (14.94)	9.90 (10.62)	11.43 (13.87)	15.05 (19.83)	0.0036**
PN	17.06 (22.55)	14.02 (22.43)	19.44 (19.47)	19.33 (23.09)	13.33 (17.21)	22.22 (24.00)	0.1046
CH	11.72 (12.43)	10.65 (12.44)	11.81 (10.04)	10.33 (10.29)	15.00 (13.62)	15.77 (15.19)	0.2321
HM	8.01 (18.06)	4.96 (1.21)	0	16.33 (25.53)	5.00 (11.25)	5.91 (19.03)	0.0028**
BI	87.45 (21.63)	87.73 (20.77)	93.75 (12.40)	88.00 (21.83)	83.33 (22.22)	85.48 (25.73)	0.8328
AT	69.50 (27.80)	66.90 (27.87)	69.44 (19.47)	75.56 (25.79)	67.78 (29.84)	67.38 (31.81)	0.5288
SEF	10.22 (24.07)	6.09 (16.86)	4.7 (11.79)	10.18 (21.39)	15.00 (33.75)	21.51 (37.56)	0.2294

Table 4 Comparing the score of subjective sleep quality

PSQI	I	II	III	IV	V	chi ²
0 very well	8 (9.52)	1 (12.50)	5 (10.00)	0	2 (6.45)	7.58
1 not bad	35 (41.67)	2 (25.00)	24 (48.00)	6 (60.00)	12 (38.71)	
2 poor	30 (35.71)	3 (37.50)	13 (26.00)	4 (40.00)	10 (32.26)	
3 very poor	11 (13.10)	2 (25.00)	8 (16.00)	0	7 (16.94)	

Table 5 Comparing the BMI among the subgroup

BMI	Total	I	II	III	IV	V	chi ²
M(SD)	22.65 (3.78)	22.77 (4.03)	22.99 (3.89)	21.92 (3.17)	23.26 (4.60)	23.19 (3.76)	0.60

Table 6 Factors related to global QoL

Covariate	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	76.0010	2.9121	26.0987	< 0.0000
C30 symptom_Fatigue	- 0.2568	0.0591	- 4.3427	< 0.0000
C30 symptom_Dyspnea	- 0.1724	0.0629	- 2.7420	0.0068
C30 symptom_Finacial difficulty	- 0.2281	0.0679	- 3.3621	0.0010
PSQI- sleep quality_very well	10.7595	4.5737	2.3525	0.0198
Chemo with Lipodox	- 40.0316	17.1386	- 2.3358	0.0207
Chemo with Cisplatin	- 15.4429	4.7336	- 3.2624	0.0013
Chemo with Paclitaxel	- 6.6067	2.8861	- 2.2892	0.0233
During chemo. x C30 symptom_Insomnia	- 0.1240	0.0456	- 2.7201	0.0072
Divorce	18.6809	7.1853	2.5999	0.0101
BMI ≥ 30.116	12.3485	6.2923	1.9625	0.0513

$R^2 = 0.4205$; It revealed 42.05% of variance was explained.

Discussion

- 1. Generally, patients with ovarian cancer reported to have relatively low QoL (comparing to other types of cancer populations) across the 5 subgroups, in particular, those in recurrent status. It suggests nurses need to assess OC patients' treatment status together with their quality of life, particularly those in recurrence.
- 2. Factors related to patients QoL should be assessed carefully to help patients dealing with those distressful symptoms or sleep problems to increase their QoL.

Limitation

1. We recruited subjects from one big medical center. It might limit the variation of participant's responses.
2. In this study, we did not measure social support of their influence on QoL. Future study should also integrate this factors.

Clinical Implication

- Systematical assessment of QoL can help nurses better understanding ovarian cancer patients' status during different treatment phases.
- QoL assessment can also be used as the basis for evaluating treatment outcomes.
- Based on the factors related to QoL, health care professionals' should further develop appropriate interventions and test of its effects on improving ovarian cancer patients' QoL and decreasing their distress.

Acknowledgements

The author would like to thank:

1. The participants for their cooperation in completing the study questionnaires.
2. The Taiwan Gynecologic Cancer (TGC) Network for providing the participants' related clinical data for our research work.
2. The National Science Council of Taiwan (MOST 104-2314-B-002-012 -) provided financial support for this study.



***Thank you for your
attention!!***