



Exploring peripheral neuropathy, symptoms of distress, hope and quality of life in Taiwanese patients with colorectal cancer after chemotherapy: A pilot study

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Outline of presentation

- **Introduction**
- **Motivation**
- **Purpose**
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Introduction- CRC epidemiological

- **Colorectal Cancer** (CRC) is a major cause of morbidity and mortality.
- It accounts for > 9% of all cancer incidence.
- CRC is the **3rd** most common cancer and the **4th** most common cause of death (Siegel, Naishadham, & Jemal, 2012).
- Aggressive treatment which can increase **neurological side effects**, particularly in the peripheral nervous system (Mols, Beijers, Vreugdenhil, & Poll-Franse, 2014).

Introduction- Peripheral neuropathy

Symptoms of PN

Sensory symptoms

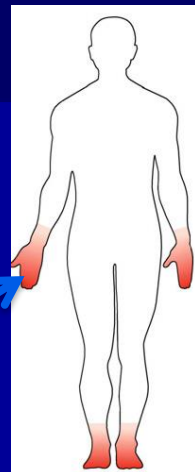
pain, tingling, burning, **numbness**, allodynia and hyperalgesia, typically in a "**stocking-glove**".

Motor functional impairment

weakness, gait and balance disturbance, difficulty with fine motor skills.

Autonomic Symptoms

constipation, urinary retention, sexual dysfunction, and blood pressure alterations.



(Areti, Yerra, Naidu, & Kumar, 2014; Hile, Fitzgerald, & Studenski, 2010)

Introduction- Peripheral neuropathy

- PN incidence rates: 19% ~85%.
- PN might last a **short-time**, or it can become a **long-term** problem (Fallon, 2013).
- The development of PN may require **chemotherapy dose reduction or cessation**(Wampler et al., 2007).

CHEMOTHERAPY AGENTS WHICH MAY CAUSE CIPN

- Cisplatin, carboplatin, and oxaliplatin
- Paclitaxel, docetaxel, and cabazitaxel
- Ixabepilone
- Vinblastine, vincristine, vinorelbine, and etoposide
- Thalidomide, lenalidomide, and pomalidomide
- Bortezomib and carfilzomib
- Eribulin



Introduction- PN & QoL

- Symptoms of PN usually mild and gradually get severe as treatment continues.
- PN may result in serious limitations in **daily functioning**, and might therefore have a negative impact on **health-related quality of life** (Tofthagen, Overcash, & Kip, 2011).

Introduction- Hope & QoL

- Hope is recognized as an important part of cancer treatment.
- Hope enables people to cope with difficult and stressful situations and suffering.
- Hope can be seen as a variable that **positively contributes to the experience of quality of life** (Jo, & Son. 2004;. Rustøen, 1995).

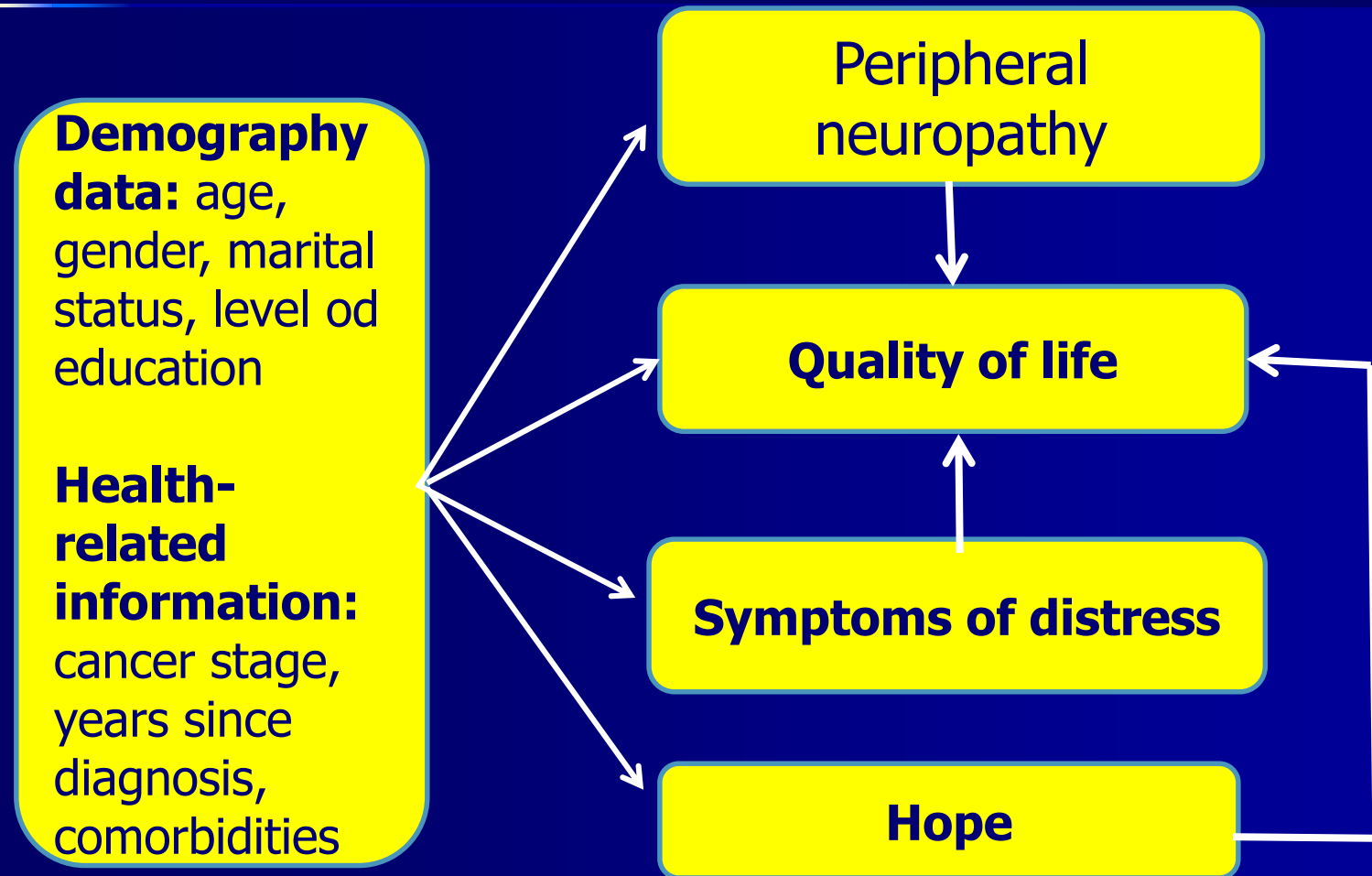
Motivation

- PN is **not easy to be aware and negatively influences** patient's physical, psychological, safety, and quality of life.
- Little western evidence demonstrates that PN influences patients' **symptoms of distress, hope and quality of life (QOL)**.

Purpose

Explore phenomena of PN, symptoms of distress, hope and quality of life in Taiwanese colorectal population.

Study framework



Methods-Setting and Participants

- The is a descriptive, correlational study design.

Inclusion criteria:

- >20 years old
- >1 cycle of chemotherapy
- Can listen, read or write Mandarin.

Exclusion criteria:

- Brain/spinal /spinal cord diseases, and second cancers

Methods- measuring tools

Variables	Measurement tools	Content	Reliability and validity
Severity grade of neuropathy	Total Neuropathy Score-clinical version (TNSc)	7 items, 0-4(severity of PN)	Convergent/discriminant validity Inter-rater reliability Internal consistency = 0.80
Symptoms of distress	MDASI-Taiwan Form Severity: 0-130 Distress: 0-60	Severe-13 items Distress-6 items Likert 0-10(severity of symptom)	Construct/discriminant/criterion validity Cronbach's α =0.85-0.93 Test retest reliability= 0.97
Hope	Herth Hope Index (HHI)	12 items, Likert 1-4(well of hope)	Face/construct/content validity Internal consistency α = 0.82
Quality of life	Functional Assessment for Cancer Treatment-Colorectal	36 items, Likert 0-4(better quality of life)	Concurrent validity Internal consistency with Chinese version 3, α = 0.90

Ethical consideration

- This study was reviewed and approved by the teaching hospital Institutional Review Board(104091-E).

Statistical analyses

- Descriptive analyses: mean, standard deviation, frequency, percentage
- Inferential analyses: Pearson's correlation and multiple linear regression

Results- Demography data

Table 1. Sample characteristics (N=40)

Variables	Mean(SD)		Minimum	Maximum	
Age	60.1(9.89)		38	79	
Variables	N	%	Variables	N	%
Gender			Education		
Male	22	55	Less than high school grad	24	60
Female	18	45	High school grad	7	17.5
Domestic status			More than high school	9	22.5
Married	29	72.5	Employment status		
Single	3	7.5	Full time	3	7.5
Divorced/ separated	4	10	Part time	2	5
Bereft	4	10	Retired	13	32.5
			Unemployed	22	55

Results- Demography data

Table 2. Cancer-related characteristics (N=40)

Variables	N	%	Variables	N	%
Years since diagnosis			Comorbidities		
<1 year	21	52.5	DM	1	2.5
1-3 years	13	32.5	Hypertension	5	12.5
>3 years	6	15	Heart disease	4	10
Stage			Osteoarthritis	0	0
I	2	5	Rheumatoid arthritis	0	0
II	1	2.5	CVA	0	0
III	20	50			
IV	17	42.5			

Results- Demography data

Table 3. Means for neuropathy, hope, distress, QoL outcomes(N =40)

Variables	N	%	Mean(SD)	Minimum	Maximum
Total Neuropathy Score(TNSc)>1	30	75	2.03(1.93)	1	8
MDASI-Taiwan Form-Severity			23.7(21.0)	0	83
MDASI-Taiwan Form-Distress			9.88(12.9)	0	54
Herth Hope Index (HHI)			37.8(4.09)	28	46
Functional Assessment for Cancer Treatment-Colorectal			93.9(18.9)	52	120

Results- Bivariate correlations

Table 4. Inter-item Correlations

	PNs	Symptom-severity	Symptom-distress	Hope	QoL
PNs	1	.543**	.623**	-.029	-.544**
Symptom-severity	.543**	1	.667**	-.093	-.667**
Symptom-distress	.623**	.667**	1	-.244	-.760**
Hope	-.029	-.093	-.244	1	.383*
QoL	-.544**	-.667**	-.760**	.383*	1

*p < 0:05, **p< 0:01, ***p< 0:001.

Results- Regression analyses

Table 5. Multiple regression analysis of factors associated with QoL

Variables	β	R ²	p
PNs	-.544	.296	.000
Symptom-Severity	-.667	.445	.000
Symptom-Distress	-.76	.578	.000
Hope	.383	.147	.015

Discussion

- This pilot study results suggested the prevalence of PN was relatively high and declined QOL.
- Severity and distress of symptoms were significantly and negatively impact QOL.
- Hope is a protect factor and positively impact QOL.

Discussion

- Nurses need to beware of this silent symptom.
- Early detect and in time manage PN.
- The findings of this pilot study suggested the patient of PN need more professional and individual care , more encouragement, and to improve their QoL.

THANKS FOR YOUR ATTENTION!