



# The relationship between unmet needs and quality of life in cancer patients.



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## Background

- The prevalence of cancer continues to rise globally, highlighting the importance of understanding and addressing the challenges cancer patients face beyond their medical treatment.
- Therefore, this study aims to analyze the factors affecting cancer patients' quality of life (QOL), including unmet needs.

## Materials & Methods

- Data were collected through a one-on-one interview with 600 cancer patients and their caregivers using a structured questionnaire for cancer patients in Ulsan Metropolitan City using the significance allocation extraction method.
- The social needs screening of the Medical Social Welfare Guidebook for Cancer Patient Discharge Plan Applying Social Determinants of Health and the Z code (Z55 ~ 65) of the ICD-10-CM were compared and organized.

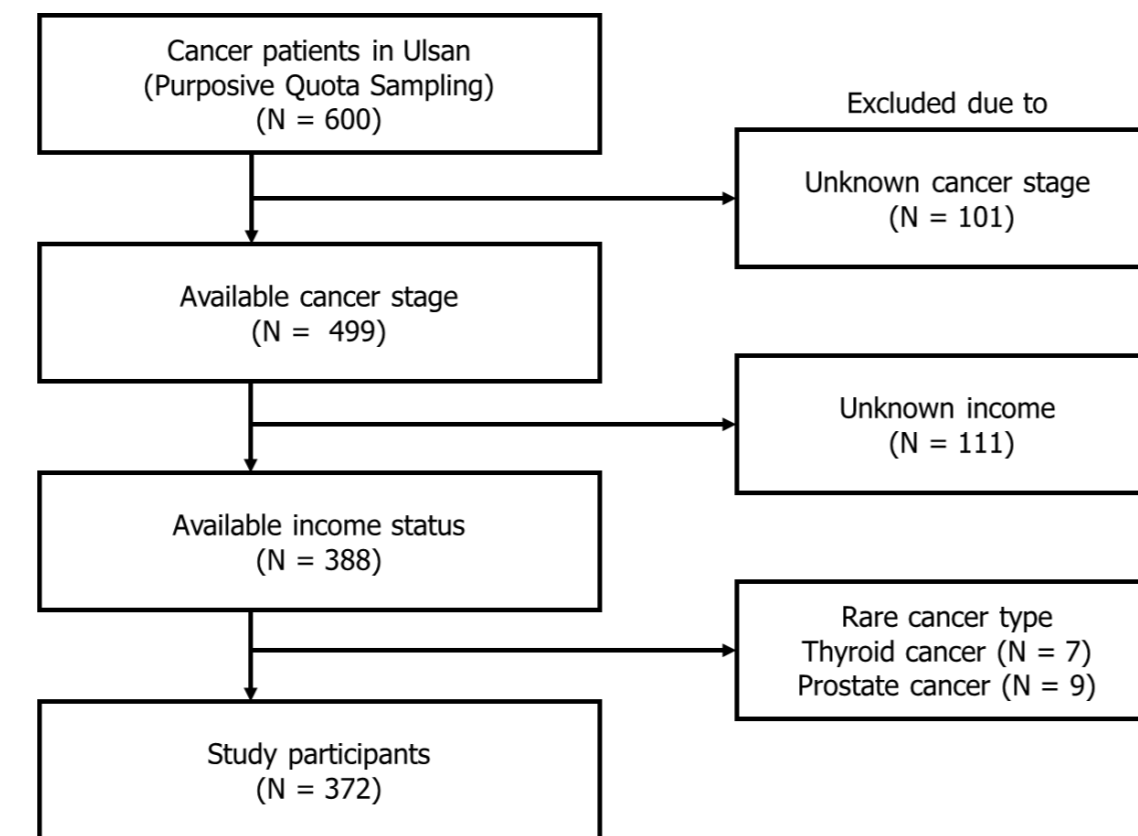
Using 1) Euro Quality of life-five dimensions (EQ-5D-5L)

2) The European Organization for Research and Treatment of Cancer (EORTC) core quality of life questionnaire (QLQ-30)

- Statistical analysis  
Frequency analysis, descriptive statistical analysis, independent sample t-test, one-way ANOVA, correlation analysis and regression analysis were performed using SPSS statistics version 26.0 (SPSS, Inc., Chicago, IL).

## Results

### Summary of participant selection



### Baseline characteristics (N = 372)

Patient characteristics		N	(%)
Sex	Male	175	47.0
	Female	197	53.0
Age (year)	Mean ± SD (median, range)	62.47±10.34	(62, 32~89)
Cancer type	Lung cancer	148	39.8
	Breast cancer	103	27.7
	Colon cancer	68	18.3
	Stomach cancer	53	14.2
Cancer stage	I	138	37.1
	II	65	17.5
	III	80	21.5
	IV	89	23.9
Education level	≤Middle school graduation	148	39.8
	High school graduation	161	43.3
	≥College graduation	63	16.9
Family members	1	55	14.8
	2	163	43.8
	3	72	19.4
	≥ 4	82	22.0

Patient characteristics		N	(%)
Monthly income (USD)	< \$1,000	115	30.9
	\$1,000-2,000	47	12.6
	\$2,000-3,000	48	12.9
	\$3,000-4,000	59	15.9
	\$4,000-5,000	42	11.3
Smoking	≥ \$5,000	61	16.4
	No	205	55.1
Drinking	Yes	167	44.9
	Non-drinking	81	21.8
Drinking	Non-drinking in the past year	215	57.8
	more than once a month	76	20.4

### Operational definition of unmet needs

Social needs screening	KCD/ICD-10 Code	This study
1 Are you having trouble getting a doctor's visit because of the cost? Finance		
2 In the past 3 months, have you had difficulty accessing electricity, gas, water, or telephone because you did not pay your billed expenses? Utility bill		
3 In the past 3 months, have you ever eaten less than you should because you didn't have enough money to buy food? Food	Z59. Issues related to housing and economic conditions	Finance
4 In the past 3 months, have you been unable to see a doctor because you have no way to go to the hospital? Traffic		
5 Are you worried about not having a stable place to live in the future? Dwelling		
6 Do you often feel like you don't have anyone close to you? Social isolation	Z60. Issues related to the social environment Z63. Other issues related to the primary support group	Primary support group
7 Do you have family members or people around you who can help you treat and manage your disease? Social support	Z59. Issues related to housing and economic conditions Z63. Other issues related to the primary support group	Primary support group
8 Do you have any difficulties in your daily life due to psychological problems (stress, depression, anxiety, etc.) due to illness? Mental health	F00-99. Mental and behavioral disorders	Psychological state
9 Need help finding or keeping a job? Employment	Z56. Problems related to employment and unemployment	Employment
10 Do you have difficulty reading and understanding hospital materials (such as booklets, materials provided by your doctor or pharmacist)? Comprehension of health information	Z55. Issues related to education and literacy Z60. Issues related to the social environment	Education
11 Are there children, adolescents, the elderly, patients, or people with physical or mental disabilities who need my(cancer patients) care in the family? Burden of care	Z60. Issues related to the social environment	Primary support group
12 In the past 3 months, have you experienced physical or verbal abuse from a family member or neighbor? Violence	Z63. Other issues related to the primary support group	Primary support group

### Adjusted Effect of Unmet Needs on QOL in cancer patients

Independent variable	EQ-5D-5L		EORTC functional		EORTC symptom Scale	
	β	P	β	P	β	P
Female (vs. Male)	-.018	.806	-.025	.741	-.005	.948
Cancer Stage (I = Reference)						
II	-.038	.437	-.073	.143	.086	.072
III	<b>-.110</b>	<b>.033</b>	<b>-.145</b>	<b>.006</b>	<b>.126</b>	<b>.011</b>
IV	<b>-.322</b>	<b>&lt;.001</b>	<b>-.404</b>	<b>&lt;.001</b>	<b>.351</b>	<b>&lt;.001</b>
Age: < 60 (vs. ≥ 60)	<b>.147</b>	<b>.007</b>	<b>.097</b>	<b>.080</b>	<b>-.034</b>	<b>.518</b>
Education: > High school (vs. Middle)	-.070	.187	-.029	.584	.001	.992
Family members: ≥ 4 (vs. ≤ 3)	.000	.998	.016	.752	.031	.519
Income: > \$2,000 (vs. ≤ \$2,000)	<b>.106</b>	<b>.049</b>	<b>.166</b>	<b>.003</b>	<b>-.065</b>	<b>.211</b>
Smoking: No (vs. Yes)	.042	.556	-.082	.260	.040	.563
Unmet Needs						
Psychological State: No (vs. Yes)	<b>.261</b>	<b>&lt;.001</b>	<b>.160</b>	<b>.002</b>	<b>-.320</b>	<b>&lt;.001</b>
Finance: No (vs. Yes)	.085	.110	-.010	.850	-.105	.041
Primary Support Group: No (vs. Yes)	.050	.346	.035	.517	-.070	.173
Employment: No (vs. Yes)	.017	.753	.036	.515	-.039	.446
Education: No (vs. Yes)	.033	.483	.090	.064	-.043	.351

## Conclusion

- The quality of life was found to be reduced by advanced cancer stages, advanced age, lower income, and unmet financial needs.
- Furthermore, psychological unmet needs have the most significant impact on the QOL of cancer patients across all indicators.
- Therefore, future cancer care strategies should focus on and support the unmet psychological needs of patients.