

Predictors of Quality of Life in Advanced Cancer Patients with Dyspnea

Sara Tinsley MS, ARNP, AOCN, Brent J. Small, PhD, Susan C. McMillan, PhD, ARNP, FAAN

Purpose

- ❖ To identify symptoms correlated with dyspnea in advanced cancer patients
- ❖ To describe how the dyspnea symptom cluster predicts quality of life (QOL)

Background

- ❖ Dyspnea in advanced cancer affects > 50% of patients
- ❖ Dyspnea management in the palliative setting is not optimal
- ❖ Compromises quality of life
- ❖ Associated with suffering
- ❖ Further research needed
 - To improve understanding of dyspnea experience
 - Identify frequently correlated symptoms
 - To learn how dyspnea symptom cluster predicts QOL

Methods

- ❖ Study design
 - Descriptive, predictive, correlational
- ❖ Sample
 - 407 hospice patients with advanced cancer and dyspnea in the southeast United States
- ❖ Measures
 - Hospice Quality of Life Index
 - 14 items, self report tool
 - Psychophysiologic, functional, social, spiritual domains
 - Rate 0-10
 - Memorial Symptom Assessment Scale
 - 25 symptoms, presence or absence
 - Rate severity and distress from 0-4 for each symptom experienced
- Questionnaires completed in the home by patient
- Demographic data

Results

Demographic Variables		
Variable	n	%
Gender		
Male	243	60
Female	163	40
No response	1	<1
Marital Status		
Married	261	64
Divorced	40	10
Widowed	79	20
Never married	19	5
No response	2	1
Ethnicity		
Caucasian	398	98
African American	3	1
Hispanic	3	1
Asian/Pacific Islander	1	<1
Other	2	<1

N = 407

Most Common Problems with Symptom Intensity and Distress Identified by Patients with Advanced Cancer that Occur with Dyspnea					
MSAS Item/Variable	n	%	\bar{x} (SD) Distress	\bar{x} (SD) Intensity	
Shortness of breath	407	100	2.25 (1.27)	2.26 (1.07)	
Lack of energy	368	91	2.50 (1.38)	2.42 (1.24)	
Dry Mouth	302	74	1.98(1.26)	2.29 (1.03)	
Pain	294	72	2.41 (1.16)	2.31 (1.01)	
Lack of appetite	259	64	1.93 (1.36)	2.47 (1.04)	
Drowsy	254	62	1.00 (1.29)	1.30 (1.28)	
Cough	233	57	1.86 (1.28)	1.86 (0.95)	
Constipation	196	48	2.45 (1.31)	2.40 (1.09)	
Worrying	191	47	2.27 (1.11)	2.28 (1.00)	
Difficulty sleeping	179	44	1.08 (1.43)	1.08 (1.39)	

N = 407

- ❖ Sample
 - Predominantly male, Caucasian, and married
 - Mean age of 73
 - Range of 21-95 years
 - Average time since cancer diagnosis was 26 months
 - Lung cancer most frequent diagnosis 44%
 - Colon 7.1%
 - Pancreas 6.9%
- ❖ Scores: Prevalence, Intensity, and Distress
- ❖ Most frequently reported symptoms with dyspnea
 - Lack of energy (91%)
 - Dry mouth (74%)
 - Pain (72%)
 - Lack of appetite (64%)
- ❖ Additional symptoms which occurred with dyspnea in more than half of the patients
 - Drowsiness (62%)
 - Cough (57%)
- ❖ Lack of energy occurred most frequently with shortness of breath, most distressing of all measured symptoms (\bar{x} = 2.50, SD= 1.38).
- ❖ Pain was the second most distressing (\bar{x} = 2.41, SD = 1.16).

Univariate and Multivariate Regression Analyses Predicting Hospice Quality of Life			
Model	b	ΔR^2	Δp
Univariate			
Fatigue distress	-.45***	0.21	<.001
Dry mouth distress	-.24***	0.05	<.001
Pain distress	-.16***	0.02	<.001
Dyspnea severity	-.15**	0.19	.001
Fatigue severity	-.14*	0.01	<.05
Multivariate			
Fatigue distress	-.24***		
Dry mouth distress	-.18***		
Pain distress	-.14**		
Dyspnea severity	-.11*		
Fatigue severity	-.14*	0.31	<.001

- ❖ Five predictors entered the regression analysis
 - Distress from fatigue and dry mouth were significant predictors of QOL (p<.001)
 - Pain distress, dyspnea and fatigue severity were also significant predictors of QOL (p< .05)

Discussion

- ❖ Symptom prevalence with dyspnea
 - Most commonly reported symptoms with dyspnea were fatigue, dry mouth, and pain
 - Dry mouth was a surprising finding, for prevalence, intensity and distress
 - Data was not collected on the use of oxygen
 - Possible explanation for dry mouth
 - Cough and anxiety have been reported with dyspnea from prior research
 - Not among the most prevalent symptoms associated with dyspnea in this study
 - Data on medication could provide insight into symptom intensity and distress.
- ❖ Regression Analysis Predicting Patient Quality of Life
 - Distressing symptoms associated with dyspnea were the significant predictors of QOL
 - Fatigue, dry mouth, and pain cluster with dyspnea and are negatively correlated with QOL
 - Interventions should be focused on managing the symptom, and the meaning of the symptom to the patient, which can result in distress
 - This is best accomplished through multidisciplinary efforts, which can be provided in the hospice setting
- ❖ Sample somewhat homogenous for ethnicity
 - Limits generalizability of the results
- ❖ Participants had to be well enough to read and write
 - Could bias the findings for the healthier hospice patient.



Making Life Better
through Research, Education & Healthcare™

Most Common Problems with Symptom Intensity and Distress Identified by Patients with Advanced Cancer that Occur with Dyspnea				
MSAS Item/Variable	n	%	\bar{x} (SD) Distress	\bar{x} (SD) Intensity
Shortness of breath	407	100	2.25 (1.27)	2.26 (1.07)
Lack of energy	368	91	2.50 (1.38)	2.42 (1.24)
Dry Mouth	302	74	1.98(1.26)	2.29 (1.03)
Pain	294	72	2.41 (1.16)	2.31 (1.01)
Lack of appetite	259	64	1.93 (1.36)	2.47 (1.04)
Drowsy	254	62	1.00 (1.29)	1.30 (1.28)
Cough	233	57	1.86 (1.28)	1.86 (0.95)
Constipation	196	48	2.45 (1.31)	2.40 (1.09)
Worrying	191	47	2.27 (1.11)	2.28 (1.00)
Difficulty sleeping	179	44	1.08 (1.43)	1.08 (1.39)
N = 407				

Demographic Variables		
Variable	n	%
Gender		
Male	243	60
Female	163	40
No response	1	<1
Marital Status		
Married	261	64
Divorced	40	10
Widowed	79	20
Never married	19	5
No response	2	1
Ethnicity		
Caucasian	398	98
African American	3	1
Hispanic	3	1
Asian/Pacific Islander	1	<1
Other	2	<1
N= 407		

Univariate and Multivariate Regression Analyses Predicting Hospice Quality of Life			
Model	b	DR2	Dp
Univariate			
Fatigue distress	-.45***	0.21	<.001
Dry mouth distress	-.24***	0.05	<.001
Pain distress	-.16***	0.02	<.001
Dyspnea severity	-.15**	0.19	.001
Fatigue severity	-.14*	0.01	<.05
Multivariate			
Fatigue distress	-.24***		
Dry mouth distress	-.18***		
Pain distress	-.14**		
Dyspnea severity	-.11*		
Fatigue severity	-.14*	0.31	<.001