

Influence of lifestyle and psychosocial factors on loneliness among cancer patients at Huntsman Cancer Institute (HCI)



Elena Aßmann,^{1,2} Jennifer Ose,^{1,3} Laura B. Oswald,⁴ Sheetal Hardikar,^{1,3} Cassandra A. Hathaway,⁴ Caroline Himbert,^{1,3} Tengda Lin,^{1,3} Anjelica Ashworth,¹ Bailee Daniels,¹ Anne C. Kirchhoff,^{1,3} Biljana Gigic,⁵ Douglas Grossman,^{1,3} Jonathan Tward,^{1,3} Thomas K. Varghese Jr.,^{1,3} David Shibata,⁶ Jane C. Figueiredo,⁷ Adetunji T. Toriola,⁸ Anna Beck,^{1,3} Courtney Scaife,^{1,3} Paul LaStayo,^{1,3} Cindy Matsen,^{1,3} Debra S. Ma,¹ Howard Colman,^{1,3} Jason P. Hunt,^{1,3} Kevin B. Jones,^{1,3} Catherine J. Lee,^{1,8} Mikaela Larson,¹ Tracy Onega,^{1,3} Wallace L. Akerley,^{1,8} Christopher I. Li,⁹ Martin Schneider,³ Brian D. Gonzalez,⁴ Frank J. Penedo,^{10,11} Erin M. Siegel,⁴ Shelley S. Tworoger,⁴ Cornelia M. Ulrich,^{1,3} Anita R. Peoples^{1,3}

¹Huntsman Cancer Institute, Salt Lake City, UT; ²Technical University, Munich, Germany; ³University of Utah, Salt Lake City, UT; ⁴H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL; ⁵Heidelberg University Hospital, Heidelberg, Germany; ⁶University of Tennessee Health Science Center, Memphis, TN; ⁷Samuel Oschin Comprehensive Cancer Institute, Cedars-Sinai Medical Center, Los Angeles, CA; ⁸Washington University School of Medicine in St. Louis, St. Louis, MI; ⁹Fred Hutchinson Cancer Research Center, Seattle, WA; ¹⁰Sylvester Comprehensive Cancer Center, Miami, FL; ¹¹University of Miami, Coral Gables, FL



BACKGROUND

- Loneliness (the subjective feeling of the absence of a social network) has been recognized as a major public health problem.¹
- Loneliness is associated with health problems such as depression, poor immune functioning, cardiovascular disease, diabetes, and mortality in the general population.^{2,3}
- Among cancer patients, the impact of loneliness on morbidity and mortality is not well studied.¹
- The COVID-19 pandemic has substantially changed health behaviors and social practices, making cancer patients at increased risk for loneliness.^{1,4}
- A better understanding of the risk factors of loneliness and its impact on health outcomes can help to identify high-risk patients and to develop effective mitigation strategies.

OBJECTIVES

- To investigate the prevalence and risk factors of loneliness among cancer patients during the COVID-19 pandemic in summer 2020.

METHODS

COVID-19 and Oncology Patient Experience Study (COPES) consortium

- This is a multicenter cohort study conducted at three NCI-designated Cancer Centers among cancer patients and healthy participants.

Analyses and Measures:

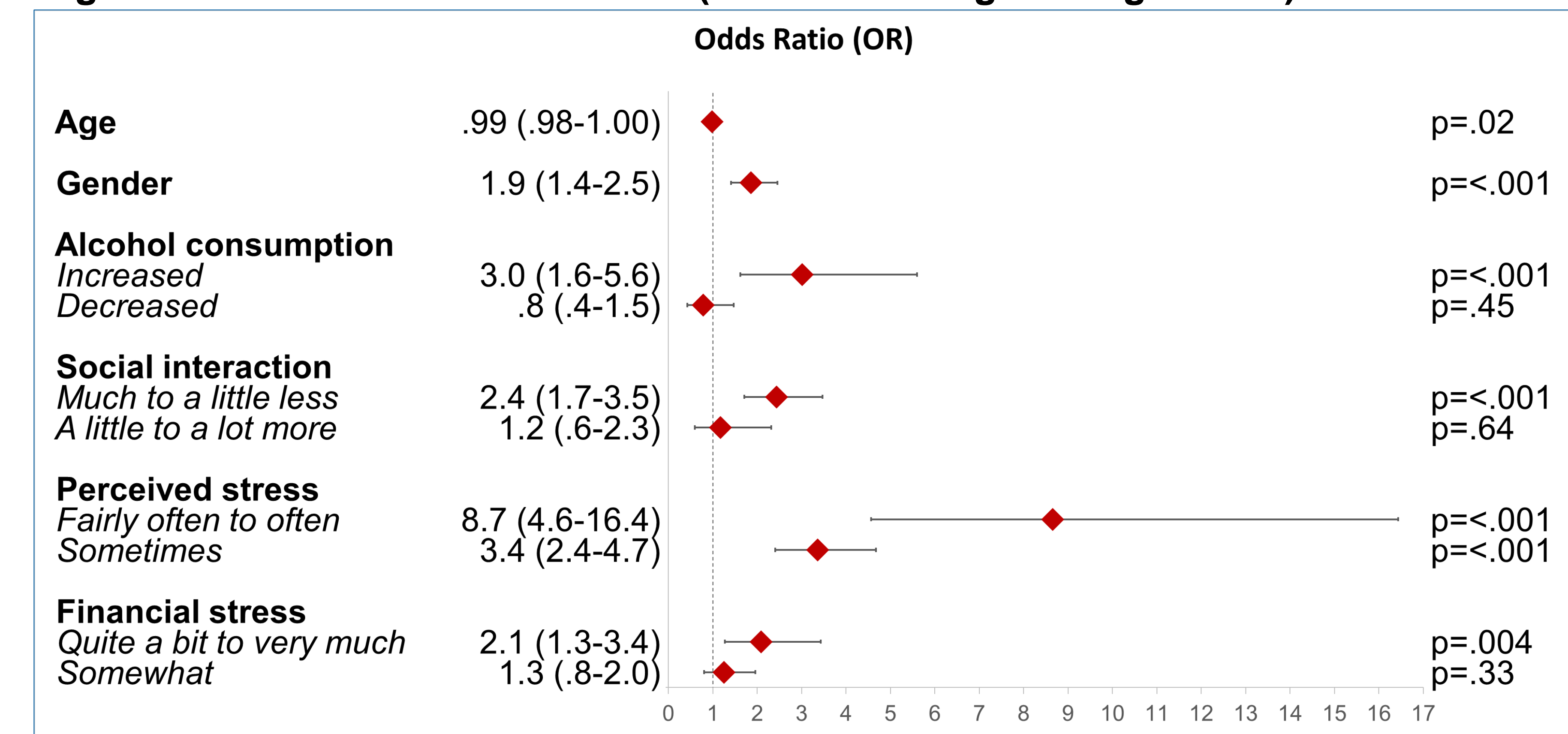
- These analyses included N=1,469 cancer patients who visited HCI between 2016-2020 and completed a COVID-19 survey between August and September 2020.
- Based on self-report, patients were dichotomized into two groups:
 - Lonely: Felt sometimes, usually, or always lonely in the past month (N=487, 33.2%)
 - Non-lonely: Felt never or rarely lonely in the past month (N=982, 66.8%)
- T-tests and χ -square tests were performed to understand pandemic-related changes in demographic/clinical, lifestyle, and psychosocial factors by the two lonely groups.
- Multivariate logistic regression was performed to identify risk factors of loneliness.

RESULTS

Table 1: Patient characteristics by lonely and non-lonely groups

	Total N = 1,469	Lonely N = 487 (33%)	Non-lonely N = 982 (67%)	P-value
Demographic and clinical characteristics				
Age (SD)	61.1±13.4	57.9±14.5	62.7±12.5	<.001
Female, n (%)	769 (52%)	322 (66%)	447 (46%)	<.001
BMI (SD)	28.1±6.3	28.3±7.0	27.9±5.8	.37
Tumor Site, n (%)				
GI track	192 (14%)	56 (12%)	136 (15%)	.004
Breast	202 (15%)	83 (18%)	119 (13%)	
Prostate	183 (13%)	45 (10%)	138 (15%)	
Tumor Stage, n (%)				
I-III	868 (82%)	271 (79%)	597 (83%)	.05
IV	164 (16%)	63 (18%)	101 (14%)	
Race, White, n (%)	1,401 (97%)	455 (96%)	946 (98%)	.30
Hispanic/Latino, n (%)	53 (4%)	27 (6%)	26 (3%)	.01
Not currently employed, n (%)				
Retired	610 (72%)	175 (59%)	435 (79%)	<.001
Lost job due to COVID-19	19 (2%)	11 (4%)	8 (1%)	
Health characteristics				
Health status, n (%)				
Excellent/Very good	741 (51%)	188 (39%)	553 (56%)	<.001
Good	504 (34%)	182 (38%)	322 (33%)	
Fair/Poor	220 (15%)	115 (24%)	105 (11%)	
No. of Comorbidities (SD)	0.5±0.8	0.6±0.9	0.5±0.8	.01
Lifestyle factors				
Change in alcohol consumption since pandemic, n (%)				
No	1,108 (89%)	351 (84%)	757 (92%)	<.001
Yes, increased	67 (5%)	44 (11%)	23 (3%)	
Yes, decreased	65 (5%)	21 (5%)	44 (5%)	
Change in marijuana/CBD oil consumption since pandemic, n (%)				
No	125 (74%)	58 (66%)	67 (83%)	.04
Yes, more	31 (18%)	22 (25%)	9 (11%)	
Yes, less	13 (8%)	8 (9%)	5 (6%)	
Psychosocial factors				
Change in social interaction in past month, n (%)				
Little or much less	1,007 (69%)	393 (81%)	614 (63%)	<0.001
Has not changed much	376 (26%)	68 (14%)	308 (31%)	
Little or much more	84 (6%)	25 (5%)	59 (6%)	
Difficulties piling up that could not be overcome in past month, n (%)				
Never / almost never	1,079 (74%)	235 (48%)	844 (86%)	<0.001
Sometimes	280 (19%)	165 (34%)	115 (12%)	
Fairly often / often	107 (7%)	87 (18%)	20 (2%)	
Financially stressed in past month, n (%)				
Not at all / a little bit	1,178 (80%)	309 (63%)	869 (89%)	<0.001
Somewhat	136 (9%)	68 (14%)	68 (7%)	
Quite a bit / very much	154 (11%)	110 (23%)	44 (5%)	

Figure 1: Risk factors of loneliness (multivariate logistic regression)



DISCUSSION AND CONCLUSIONS

- These findings suggest that poor health status, unhealthier lifestyle habits, and worse psychosocial factors were associated with loneliness among cancer patients during the COVID-19 pandemic:
 - Lonely vs. non-lonely cancer patients were younger, female, Hispanic, on Medicaid, had lost jobs due to the pandemic, had fair/poor health status, and higher number of comorbidities.
 - For lifestyle and psychosocial factors, lonely vs. non-lonely patients had increased alcohol and CBD oil/marijuana consumption, perceived and financial stress, fewer social interactions, and exercised less regularly.
 - In multivariate analyses, being younger, female, increased alcohol consumption, less social interaction, and higher perceived and financial stress were associated with increased loneliness.
- These results indicate the need to screen cancer patients for unhealthy lifestyle factors and psychological stress to:
 - Identify cancer patients at increased risk of loneliness
 - Develop effective management strategies for loneliness

REFERENCES

- 1) Miaskowski C, et al. Cancer. 2021;127(17):3246-3253.
- 2) Christiansen J, et al. Ann Behav Med. 2021;55(3):203-215.
- 3) Hawkey LC, et al. Ann Behav Med. 2010;40(2):218-27.
- 4) Killgore WDS, et al. Psychiatry Res. 2020;294:113551.



Elena Aßmann, MSc

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