

The Effects of Yoga Therapy (YT) Consultations for Alleviating Symptom Burden in Inpatient Cancer Care

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Disclosures

- None

Background

- Yoga Therapy (YT) is an evidence-based mind-body practice known to improve physical and mental health in people with cancer
- NCCN recommendations and SIO-ASCO endorsement for clinical practice guidelines exist for the use of yoga in cancer care^{1,2}
- Yoga is still not part of routine **clinical practice** at many cancer centers
- Current evidence exists predominantly in the clinical trial setting and group classes³

Methods

- Retrospective analysis of the first inpatient YT consultation between March 2020 to March 2023
- We examined demographics, reasons for referral, and self-reported symptom burden before and after one YT session using the modified Edmonton Symptom Assessment Scale (mESAS)
- Descriptive statistics were used to summarize the demographic and clinical characteristics of the patients
- Wilcoxon signed-rank t-Tests were used to compare mESAS post-session to pre-session scores

Yoga Therapy Intervention

- A referral for YT was placed by integrative medicine physicians, advanced practice providers, or health psychologists
- Prior to the consultation, the YT reviewed the patient's medical record, followed by a comprehensive assessment
- YT consultation included approximately 2/3 of actual practices
- The patients were also provided with a practice list and recordings for independent home practice
- Counseling patients using specific yoga techniques

CONSORT Diagram

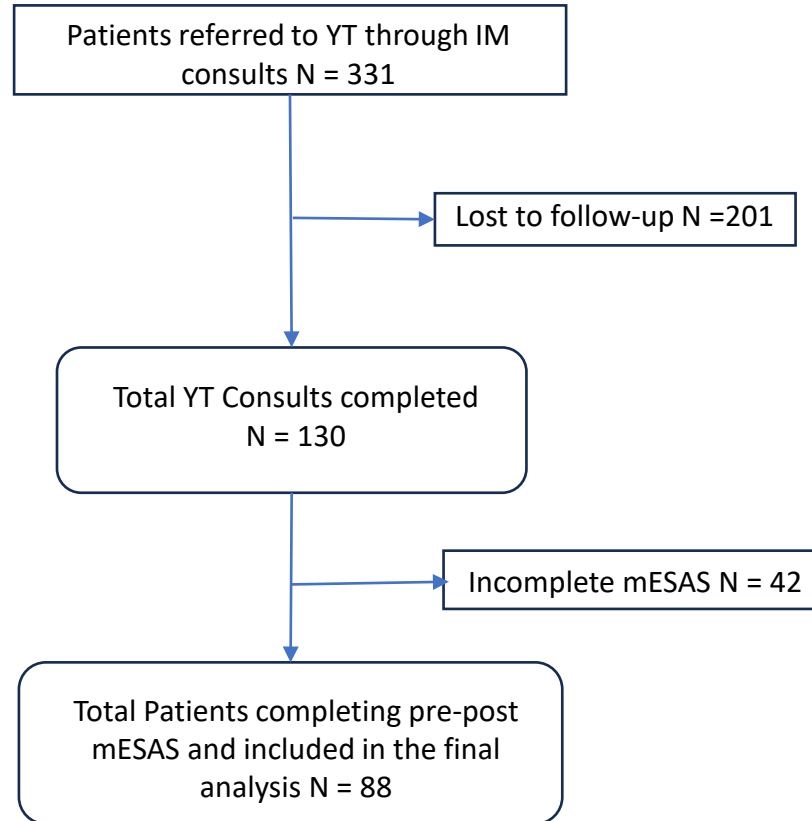


Figure 1: CONSORT diagram showing the study flow and the total number of patients included in the final analysis
YT – Yoga Therapy
IM – Integrative Medicine
MESAS – Edmonton Symptom Assessment Score

Table 1: Demographics:

Age	Mean ± SD (Min, max)	51.34 ± 17.11	
		N	Percentage %
Sex	Female	221	66.8
	Male	110	33.2
Race	White or Caucasian	226	68.3
	Black or African American	36	10.9
	Asian	23	6.9
	Other	44	13.3
	Declined to answer	2	0.6
Ethnicity	Not Hispanic or Latino	272	82.2
	Hispanic or Latino	55	16.6
	Declined to Answer/Unspecified	4	1.2
Marital status	Married/Partnered	188	56.8
	Single	79	23.9
	Divorced/Separated	31	9.4
	Widowed	24	7.3
	Unspecified	9	2.7

Employment	Full Time	118	35.6
	Unemployed	78	23.6
	Retired	75	22.7
	Part-time /Other	22	6.6
Cancer type	Disabled	33	10
	Breast cancer	20	6
	Digestive/Gastrointestinal	33	10
	Genitourinary	13	3.9
	Gynecologic cancer	32	9.7
	Thoracic/Head and Neck	15	4.5
	Hematologic/Blood	130	39.3
	Neurologic	3	0.9
	Other	3	0.9
	Respiratory/Thoracic	30	9.1
Metastatic status	Skin	5	1.5
	Non-Metastatic	64	67.4
	Metastatic	31	32.6

Table 2: Reasons for Referral

Inpatient Admission Reason n=130	Cancer or Treatment Effect/Symptom	38	11.5	
	Cancer Treatment	44	33.8	
	Cancer Treatment and/or Diagnostic Testing	13	10	
	Cancer-Related Pain	13	10	
	Infection	10	7.7	
IM Referral Reason*	Other	12	9.2	
	Nausea	7	5.4	
	Anxiety/Stress Reduction	99	76.2	
	Fatigue	100	76.9	
	Insomnia	69	53.1	
	Mood/Depression	57	43.8	
	Quality of Life	81	62.3	
	Number of Referral Reasons	1	6	4.6
		2	32	24.6
		3	41	31.5
	4	36	27.7	
	5	14	10.8	
	6	1	0.8	

*Sum of Referral Reasons is greater than 100% due to multiple reasons per study participant in some instances.

Yoga Therapy Details

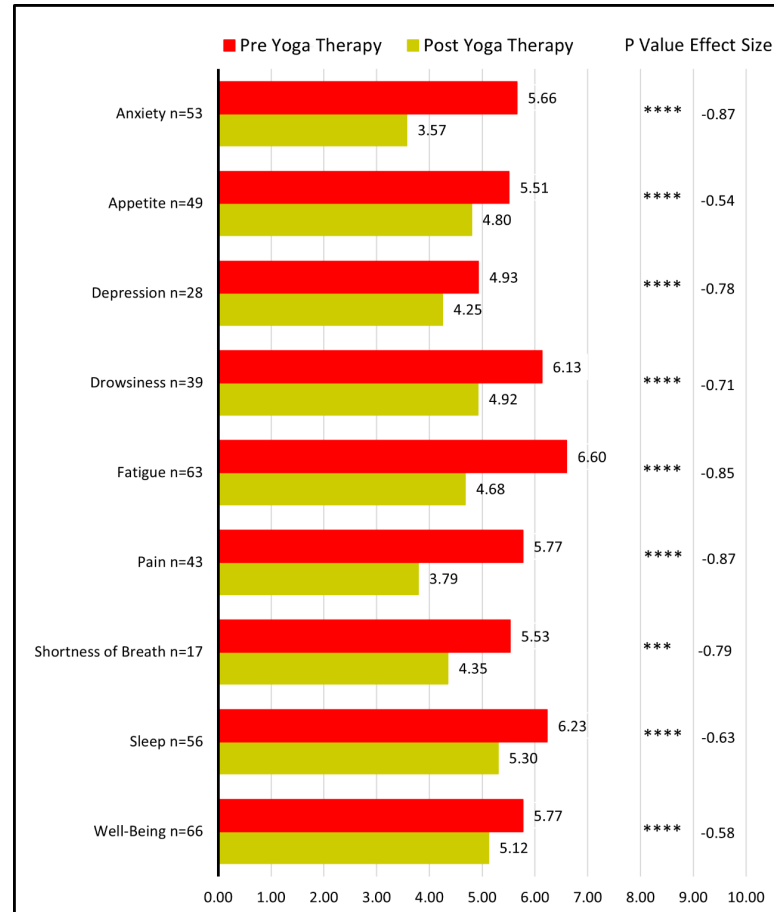
Method of Service Delivery	In-Person	79	60.8
	Not Documented	1	0.8
	Virtual	50	38.5
Service Duration	Mean ± SD (In Minutes)	45.48	11.4
Prior Yoga-Meditation Experience	None	93	71.5
	Not Reported	1	0.8
	Regular Practice	4	3.1
	Some Exposure	32	24.6
Yoga Therapy Practices Used	Breath	112	86.2
	Counseling	4	3.1
	Meditation	26	0.2
	Relaxation	92	70.8
	Stretching	53	40.1
	Unknown	7	5.4

Table 3. Individual mESAS symptom among patients with scores ≥ 1 before and the mean difference in scores after the YT intervention.

	N = 88 (%)	Pre-YT Mean (SD)	Change scores after YT Mean (SD)	P-Value	Effect Size
Anxiety	72 (82)	4.78 (1.9)	-1.88 (1.0)	< 0.001	-0.86
Appetite	72 (82)	4.43 (2.0)	-0.60 (1.0)	< 0.001	-0.51
Depression	56 (64)	3.50 (1.7)	-0.48 (0.7)	< 0.001	-0.60
Drowsiness	63 (72)	4.62 (2.5)	-1.10 (1.2)	< 0.001	-0.68
Dry mouth	31 (35)	4.74 (3.1)	-0.65 (0.8)	0.001	-0.61
Fatigue	82 (93)	5.59 (2.4)	-1.73 (1.1)	< 0.001	-0.84
Financial distress	23 (26)	5.22 (2.4)	-0.04 (0.2)	0.317	-0.21
Hot flashes	13 (15)	2.85 (2.2)	-0.54 (0.7)	0.02	-0.65
Memory	21 (24)	2.52 (1.9)	-0.67 (1.6)	0.014	-0.54
Nausea	28 (32)	3.71 (2.2)	-1.50 (1.0)	< 0.001	-0.82
Numbness and Tingling	24 (27)	3.79 (2.4)	-1.00 (1.5)	0.001	-0.70
Pain	74 (84)	4.3 (2.2)	-1.69 (1.0)	< 0.001	-0.86
Shortness of Breath	49 (56)	3.39 (2.0)	-1.06 (0.9)	< 0.001	-0.76
Sleep	81 (92)	5.00 (2.3)	-0.77 (1.1)	< 0.001	-0.59
Spiritual Pain	14 (16)	3.43 (2.0)	-0.07 (0.3)	0.317	-0.27
Well-Being	84 (95)	5.06 (1.8)	-0.60 (0.9)	< 0.001	-0.56
Psychological Distress	72† (82)	7.43 (3.3)	-2.19 (1.5)	< 0.001	-0.82
Physical Distress	81* (92)	16.4 (7.4)	-5.17 (3.0)	< 0.001	-0.85
Global Distress	86* (98)	26.76 (12)	-7.37 (4.5)	< 0.001	-0.86

- P value derived from Wilcoxon Signed Rank Test.
- †Patients with Psychological distress score ≥ 2 pre-YT.
- *Patients with Physical distress score ≥ 3 pre-YT.
- *Patients with Global distress score ≥ 3 pre-YT.

Figure. Individual mESAS symptom among patients with scores ≥ 4 before and the mean difference in scores after the YT intervention.



Limitations

- Our sample also does not have an active attention control group
- Over 300 patients referred to Yoga therapy, only 130 had an actual YT session
- Cost, health disparities, and other barriers need to be considered in future planning of Yoga implementation programs in cancer centers⁴
- The observed changes between pre- and post-yoga sessions should be interpreted cautiously, considering their clinical significance.

Conclusion



YT consultations delivered one-on-one significantly reduced physical and psychological distress and improved cancer-related symptoms like anxiety, fatigue, and pain for inpatients



YT was especially beneficial for individuals with moderate to severe symptom burden, suggesting a wide range of patients who can be appropriately referred



Future research should focus on longitudinal data collection to assess long-term effectiveness of YT in cancer care and examine the results based on different demographic and clinical characteristics

Acknowledgments

- Our patients
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References:

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