Comparative Sleep Assessment among African American Survivors of Localized Lung Cancer

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Introduction

- Lung cancer is the second most prevalent cancer and a leading cause of death with more than 1.8 million deaths annually[1,2,3].
- Racial sleep disparities are present, with Black Americans reporting less sleep and deep sleep, and more awakenings. [4,5]
- Long-term poor sleep quality is associated with increased chronic health conditions and poor overall health, which is increased in the African American population.[4]
- Improving the QOL for survivors (NSCLC, Stages I - IIIa), especially those of racial minorities, requires attention to persistent, burdensome symptoms, including sleep disturbances.

Purpose

To measure and assess sleep quality and quantity among African American survivors of lung cancer (NSCLC, Stages I – IIIa).

Methods

- Based on the Symptom Management Theory[6], our comprehensive assessment focuses on a racial minority group
- A cross-sectional, descriptive design was utilized.
- **Inclusion Criteria**: adult (21 years or older) African-American survivors lung cancer (stages I-III, ICD 10 code C34.90), completed treatment in the last 10 years, and ability to read/write English
- **Exclusion Criteria**: survivors of a second primary cancer or those with a secondary cancer receiving treatment
- Sixteen lung cancer survivors (N = 16) consented to participate.
- Measurement instruments included sleep and symptom-focused questionnaires, accelerometry, sleep diary and interviews. After consent was obtained, participants answered study specific questionnaires, wore a waist accelerometer for 7 days, kept a 7-day sleep diary, and completed an exit interview.

Results: Participant Profile (N = 16)

Mean Age in years, (SD)	68.9 (10.2)
Sex	
Female	11 (68.8)
Male	5 (31.2)
Cancer Stage	
Stage I	9 (56.3)
Stage II	3 (18.7)
Stage III	4 (25)
Smoking Status	
Never smoked	3 (18.7)
Previously smoked	12 (75)
Currently smoke	1 (6.3)
Year of Diagnosis	
2021 to present	3 (18.8)
2016 - 2020	5 (31.2)
Before 2016	8 (50)
Comorbid Conditions	
Total Comorbidities (SD)[7]	4.3 (2.6)
COPD	8 (50)
Lung disease	7 (43.8)
High blood pressure	10 (62.5)
Cancer (not specified)	7 (43.8)
Arthritis	10 (62.5)

[7]Total comorbidities were measured using the Self-Administered Comorbidity Questionnaire

Note: some categories may not sum exactly to 100% due to rounding.

Objective Sleep Measure– Accelerometer (N = 16)

Variable	Mean (SD)	Range
Sleep duration (min)	507.42 (173.2)	160-1825
Sleep efficiency (%)	92.34 (3.0)	75.26-99.8
WASO[1] (min)	34.57 (14.4)	2-285
Awakenings	12.2 (5.2)	2-86

[1]Wake after sleep onset.

Self-Reported Sleep Quality & Quantity

Variable	Mean (SD)
PSQI [1](N = 16)	
Global score	9.75 (3.8)
Sleep duration (min)	328.2 (78)
Sleep efficiency (%)	71.3 (18.6)
Sleep disturbance score [range][2]	1.56 [0-3]
Sleep Diary (n = 13)	
Sleep duration (min)	407.1 (80.8)
Sleep efficiency (%)	72.1 (16.0)
WASO[3]	56.37 (57.4)
Awakenings	2.1 (0.86)

[1]Pittsburgh Sleep Quality Index. [2]Component score. [3]Wake after sleep onset.

Qualitative Interview Themes (n = 15)

- Perceived sleep quality ranged from "terrible" to "good"
- Multiple awakenings after sleep onset
- Not feeling well rested upon final awakening
- Sleep time routines are perceived as beneficial
- Health providers inattention to sleep as a potential clinical problem.

Implications

- This research reveals a minority population of survivors of localized lung cancer experience poor sleep.
- Our assessment study provides new evidence that sleep is an important clinical problem among this minority population, providing support for effective assessment strategies to understand and improve sleep and lead to development of management strategies to improve symptom outcomes.

Acknowledgement and References

References:

UNIVERSITY OF South Carolina