



Beliefs and Attitudes about Sleep among Community-Dwelling Black Men

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Presenter Disclosure Information

I **have no** financial relationships to disclose regarding this presentation.

I **have** had the following financial relationships in the past 12 months:

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I **will not** discuss off label or investigational drug use in my presentation.

Background

- Disrupted sleep is one of the major public health issues in the United States.
- Race/ethnicity appears to be a risk factor for sleep disturbances as well.
- Epidemiologic, anatomic, and sociological findings show greater risks of sleep disturbances for blacks. Blacks tend to underreport and minimize symptoms of sleep problems.
- Barbershops are an ideal location for health screening and wellness promotion among black men. They have been used to screen for hypertension, diabetes, and prostate cancer.

Objectives

- Investigate perceptions of sleep among black men in the community.
- Assess associations of sleep apnea risk and sleep insufficiency with dysfunctional beliefs and attitudes toward sleep among black men in barbershops.

Methods

- Respondents were black adult male customers (n=300+) attending several barbershops in Brooklyn, NY.
- They provided sociodemographic data and estimated habitual sleep duration.
- The Apnea Risk Evaluation System (Advanced Brain Monitoring, Inc., Carlsbad, CA, USA) questionnaire is a validated instrument that combines features of three established screens: the Berlin questionnaire, Flemons' index, and the Epworth sleepiness scale. Individuals are assigned as having “no significant risk,” “low risk,” or “high risk”. It was used to identify men at high OSA risk (cut-off: >5).
- The Dysfunctional Beliefs and Attitudes about Sleep Scale (DBAS) was used to quantify strength of endorsed attitudes/beliefs toward sleep.
- DBAS is a Likert-type scale requiring men to circle a number from 0 (strongly disagree) to 10 (strongly agree); higher average score indicated more dysfunctional attitudes/beliefs about sleep.



Watermark Medical ARES Questionnaire

PRINT IN CAPITAL LETTERS – STAY WITHIN THE BOX

First Name		Middle Initial	Last Name		Tally ARES Risk Points
Weight	Pounds	Age	Years	Gender	Neck Size +2 Male ≥16.5 +2 Female ≥15.0
Height	Feet	Inches	Neck Size	Inches	Score <input style="width: 40px; height: 20px;" type="text"/>
Date of Birth	Month	Day	Year	ID Number	
					Optional

COMPLETELY FILL IN ONE CIRCLE FOR EACH QUESTION – ANSWER ALL QUESTIONS

Have you been diagnosed or treated for any of the following conditions?						Co-morbidities -1 for each Yes response
High blood pressure	Yes <input type="radio"/>	No <input type="radio"/>	Stroke	Yes <input type="radio"/>	No <input type="radio"/>	Score <input style="width: 40px; height: 20px;" type="text"/>
Heart disease	Yes <input type="radio"/>	No <input type="radio"/>	Depression	Yes <input type="radio"/>	No <input type="radio"/>	
Diabetes	Yes <input type="radio"/>	No <input type="radio"/>	Sleep apnea	Yes <input type="radio"/>	No <input type="radio"/>	
Lung disease	Yes <input type="radio"/>	No <input type="radio"/>	Nasal oxygen use	Yes <input type="radio"/>	No <input type="radio"/>	Do not assign any points for these eight responses
Insomnia	Yes <input type="radio"/>	No <input type="radio"/>	Restless leg syndrome	Yes <input type="radio"/>	No <input type="radio"/>	
Narcolepsy	Yes <input type="radio"/>	No <input type="radio"/>	Morning Headaches	Yes <input type="radio"/>	No <input type="radio"/>	
Sleeping Medication	Yes <input type="radio"/>	No <input type="radio"/>	Pain Medication e.g., vicodin, oxycontin	Yes <input type="radio"/>	No <input type="radio"/>	

<p>Epworth Sleepiness Scale: How likely are you to doze off or fall asleep in the following situations, in contrast to just feeling tired? This refers to your usual way of life in recent times. Even if you have not done some of these things recently, try to work out how they would have affected you. Use the following scale to mark the most appropriate box for each situation. (M.W. Johns, Sleep 1991)</p> <p>0 = would never doze 1 = slight chance of dozing 2 = moderate chance of dozing 3 = high chance of dozing</p>						Epworth Score TOTAL the values from all 8 questions, if 11 or less Score = 0 if 12 or more Score = 2
Sitting and reading	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Score <input style="width: 40px; height: 20px;" type="text"/>
Watching TV	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sitting, inactive, in a public place (theater, meeting, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
As a passenger in a car for an hour without a break	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Lying down to rest in the afternoon when circumstances permit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sitting and talking to someone	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Sitting quietly after lunch without alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
In a car, while stopped for a few minutes in traffic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<p>Frequency 0 - 1 times/week 1 - 2 times/week 3 - 4 times/week 5 - 7 times/week</p> <p>On average in the past month, how often have you snored or been told that you snored?</p> <p>Never <input type="radio"/> Rarely <input type="radio"/> +1 Sometimes <input type="radio"/> +2 Frequently <input type="radio"/> +3 Almost always <input type="radio"/> +4</p> <p>Do you wake up choking or gasping?</p> <p>Never <input type="radio"/> Rarely <input type="radio"/> +1 Sometimes <input type="radio"/> +2 Frequently <input type="radio"/> +3 Almost always <input type="radio"/> +4</p> <p>Have you been told that you stop breathing in your sleep or wake up choking or gasping?</p> <p>Never <input type="radio"/> Rarely <input type="radio"/> +1 Sometimes <input type="radio"/> +2 Frequently <input type="radio"/> +3 Almost always <input type="radio"/> +4</p> <p>Do you have problems keeping your legs still at night or need to move them to feel comfortable?</p> <p>Never <input type="radio"/> Rarely <input type="radio"/> Sometimes <input type="radio"/> Frequently <input type="radio"/> Almost always <input type="radio"/></p>						Assign points for each of the first three responses
Signature	Area Code	Phone Number	Total all 6 boxes from above		Point Total	
			If point total = 4 or 5 (low risk), 6 to 10 (high) and 11 or more (very high risk)		<input style="width: 40px; height: 20px;" type="text"/>	

Methods

Dysfunctional Beliefs and Attitudes about Sleep Scale



Several statements reflecting people's beliefs and attitudes about sleep are listed below.

Please indicate to what extent you personally agree or disagree with each statement.

There is no right or wrong answer. For each statement, circle the number that corresponds to your own *personal belief*. Please respond to all items even though some may not apply directly to your own situation.

		Strongly Disagree	←→	Strongly Agree							
1.	I need 8 hours of sleep to feel refreshed and function well during the day.	1	2	3	4	5	6	7	8	9	10
2.	When I don't get the proper amount of sleep on a given night, I need to catch up on the next day by napping or on the next night by sleeping longer.	1	2	3	4	5	6	7	8	9	10
3.	I am concerned that chronic insomnia may have serious consequences on my physical health.	1	2	3	4	5	6	7	8	9	10
4.	I am worried that I may lose control over my abilities to sleep.	1	2	3	4	5	6	7	8	9	10
5.	After a poor night's sleep, I know that it will interfere with my daily activities on the next day.	1	2	3	4	5	6	7	8	9	10
6.	In order to be alert and function well during the day, I believe I would be better off taking a sleeping pill rather than having a poor night's sleep.	1	2	3	4	5	6	7	8	9	10
7.	When I feel irritable, depressed, or anxious during the day, it is mostly because I did not sleep well the night before.	1	2	3	4	5	6	7	8	9	10
8.	When I sleep poorly on one night, I know it will disturb my sleep schedule for the whole week.	1	2	3	4	5	6	7	8	9	10

Methods

Please indicate to what extent you personally agree or disagree with each statement.

There is no right or wrong answer. For each statement, circle the number that corresponds to your own *personal belief*. Please respond to all items even though some may not apply directly to your own situation.

		Strongly Disagree	←→									Strongly Agree
9.	Without an adequate night's sleep, I can hardly function the next day.	1	2	3	4	5	6	7	8	9	10	
10.	I can't ever predict whether I'll have a good or poor night's sleep.	1	2	3	4	5	6	7	8	9	10	
11.	I have little ability to manage the negative consequences of disturbed sleep.	1	2	3	4	5	6	7	8	9	10	
12.	When I feel tired, have no energy, or just seem not to function well during the day, it is generally because I did not sleep well the night before.	1	2	3	4	5	6	7	8	9	10	
13.	I believe insomnia is essentially the result of a chemical imbalance.	1	2	3	4	5	6	7	8	9	10	
14.	I feel insomnia is ruining my ability to enjoy life and prevents me from doing what I want.	1	2	3	4	5	6	7	8	9	10	
15.	Medication is probably the only solution to sleeplessness.	1	2	3	4	5	6	7	8	9	10	
16.	I avoid or cancel obligations (social, family) after a poor night's sleep.	1	2	3	4	5	6	7	8	9	10	

Please indicate to what extent you personally agree or disagree with each statement.

There is no right or wrong answer. For each statement, circle the number that corresponds to your own *personal belief*. Please respond to all items even though some may not apply directly to your own situation.

		Strongly Disagree	←→								Strongly Agree
9.	Without an adequate night's sleep, I can hardly function the next day.	1	2	3	4	5	6	7	8	9	10
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14.	I feel insomnia is ruining my ability to enjoy life and prevents me from doing what I want.	1	2	3	4	5	6	7	8	9	10
15.	Medication is probably the only solution to sleeplessness.	1	2	3	4	5	6	7	8	9	10
16.	I avoid or cancel obligations (social, family) after a poor night's sleep.	1	2	3	4	5	6	7	8	9	10

Results

Participants' Baseline Characteristics

Age (Mean ± SD)	40.0±14.8
BMI > 25	64%
Hypertension	23%
Diabetes Mellitus	11%
Heart Disease	4%

Country of Origin

USA	22%
Trinidad and Tobago	17%
Jamaica	13%
Haiti	11%
Years in US	19

Results

Risk Factors

Caffeine	22%
Alcohol	29%
Neck	
Circumference	16.2
(inches)	

Rates of Sleep-Related Problems

Sleep Satisfaction	34%
Difficulty Initiating	
Sleep	26%
Difficulty Maintaining	
Sleep	22%
Wake up too early	32%
Sleep Medication	5%

Results

- ARES data showed 27% were at high OSA risk.
- The mean DBAS score among the entire sample was 4.29 ± 2.06 .
- The mean DBAS score among those reporting sufficient, (6-8 hours), short (<6 hours) and long (>8 hours) sleep was 4.73 ± 2.06 , 4.46 ± 2.16 and 5.33 ± 1.38 , respectively.
- The mean DBAS score among those with low and high risk for sleep apnea was 4.30 ± 2.08 and 5.42 ± 1.78 , respectively.

Results

			Sleep Apnea Risk		
		Total (N=286)	Low Risk (N=212)	High Risk (N=74)	P Value
CATCHUP	When I don't get the proper amount of sleep on a given night, I need to catch up on the next day by napping on the next night by sleeping longer.	5.91	5.56	3.29	0.004
CONTROL	I am worried that I may lose control over my abilities to sleep	3.75	3.29	5.79	0.001
ACTIVITIES	After a fortnight sleep, I know that it will interfere with my daily activities on the next day	6.12	5.79	4.31	0.010
EMOTIONS	When I feel irritable, depressed, or anxious during the day, it is mostly because I did not sleep well the night before	4.72	4.31	4.31	0.001
WEEK	When I sleep poorly on one night, I know it will distort my sleep schedule for the whole week	3.74	3.21	5.33	<0.001

Results

		Sleep Apnea Risk			
		Total (N=286)	Low Risk (N=212)	High Risk (N=74)	P Value
DAY	Without an adequate night's sleep, I can hardly function the next day.	4.43	4.06	5.54	0.003
ENERGY	When I feel tired, have no energy, or just seem to not function well during the day, it is generally because I did not sleep well the night before.	5.54	5.15	6.69	0.003
MEDICATIONS	Medication is probably the only solution to sleeplessness.	2.49	2.23	3.27	0.034
SOCIAL	I avoid or counsel obligations(social, family) after a poor night's sleep.	3.15	2.76	4.27	0.004

Results

- Log-transformed values were used in ANCOVA, assessing differences between short (<6 hours) and average sleepers (6-8h) and sleep apnea risk while adjusting for effects of age, body mass index, hypertension, Type II Diabetes, mood, and sleep variables.
- Short sleepers did not have greater DBAS scores than average sleepers [$F_{1,192} = 0.89$, NS].
- Men at high OSA risk had greater DBAS scores [$F_{1,182}=7.73$, $p<0.001$] and tended to report greater rate of sleep dissatisfaction [46% vs. 13%, $\chi^2=24.52$, $p<0.001$]

Discussion

- Findings suggest that ARES can be used to screen in a non-traditional setting.
- Results suggest that black men at high risk for OSA have dysfunctional beliefs about sleep might explain low adherence rates to physician-recommended sleep assessment in that population.
- Developed relationships in the community could be utilized to implement a culturally and linguistically tailored behavioral intervention using barbers as peer educators.
- Proposed program could serve as an alternative non-traditional model of disseminating proven interventions for cardiovascular risk reduction in blacks nationwide. The potential for dissemination is high, as there are over 18,000 black barbershops in most major urban centers across the United States (P20MD006875).

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Expert Commentary

Short Sleep and Dysfunctional Beliefs and Attitudes Toward Sleep Among Black Men



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Barbershops are an ideal location for health screening and wellness promotion among black men. It is used successfully to screen for the presence of hypertension, diabetes, and prostate cancer. The present study assessed associations of short sleep with dysfunctional beliefs and attitudes toward sleep among black men in the barbershop. Findings suggest that ARES can be used to screen black men in the barbershop. That black men at high risk for OSA have dysfunctional beliefs about sleep might explain low adherence rates to physician-recommended sleep assessment in that population.



Thank You.



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