

ONLINE REPOSITORY

**Sleep-disordered Breathing and Cardiovascular Disease:
An Outcome-Based Definition of Hypopneas**

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Table 1E: Characteristics of subjects with and without cardiovascular disease (CVD) status data.

Characteristic	Missing CVD data (n = 335)		CVD data available (n = 6106)		p-value
	% or Median (IQR*)		% or Median (IQR*)		
Gender (%)					
Men		49.2		47.02	0.43
Women		50.8		52.98	
Race (%)					
Caucasian		53.4		77.9	< 0.0001
Native-American		8.1		9.6	
African-American		31.9		6.7	
Hispanic		4.2		4.4	
Other		2.4		1.4	
Smoking Status (%)					
Never		45.1		45.9	0.10
Former		39.1		42.9	
Current		15.1		11.2	
Hypertension (%)		54.3		52.6	0.55
Age (median, years)	57.0	(47.0 – 68.0)	63.0	(55.0 – 72.0)	< 0.0001
Body mass index (kg/m ²)	28.0	(25.0 – 31.4)	27.8	(24.8 – 31.2)	0.52
Waist circumference (cm)	99.0	(90.0 – 107.0)	97.0	(89.0 – 107.0)	0.17
Neck circumference (cm)	38.5	(35.1 – 41.8)	38.0	(34.8 – 41.0)	0.07
Total cholesterol (mg/dl)	208.0	184.0 – 237.0)	204.0	(180.0 – 229.0)	0.32
HDL cholesterol (mg/dl)	48.5	(39.0 – 59.0)	47.0	(38.0 – 58.0)	0.28
Apnea-hypopnea index [†] , events/hr	4.3	(1.1 – 12.2)	4.4	(1.3 – 11.0)	0.54
Apnea index [†] , events/hr	0.4	(0.0 – 2.6)	0.4	(0.0 – 2.3)	0.96
Hypopnea index [†] , events/hr	3.1	(0.9 – 7.8)	3.2	(1.0 – 7.7)	0.87

*IQR = 25th – 75th percentile; [†]Apneas and hypopneas based on a 4% oxyhemoglobin desaturation criterion.

Table 2E: Median (interquartile range) of the apnea index and hypopnea index as a function of different oxyhemoglobin desaturation (ΔSaO_2) criteria.

ΔSaO_2 criteria	Apnea index (events/hr)		Hypopnea index (events/hr)	
	CVD (+)	CVD (-)	CVD (+)	CVD (-)
Any ΔSaO_2	1.63 (0.32 – 6.45)	0.98** (0.19 – 4.04)	29.57 (19.38 – 42.19)	25.48 ** (16.70 – 36.72)
$\Delta\text{SaO}_2 \geq 2.0\%$	1.40 (0.25 – 5.86)	0.73** (0.15 – 3.41)	18.46 (11.39 – 28.40)	14.44** (8.06 – 23.66)
$\Delta\text{SaO}_2 \geq 3.0\%$	1.05 (0.17 – 5.09)	0.55** (0.00 – 2.81)	9.85 (5.03 – 17.63)	6.88** (2.85 – 13.62)
$\Delta\text{SaO}_2 \geq 4.0\%$	0.73 (0.00 – 3.69)	0.34** (0.00 – 2.07)	4.73 (1.85 – 9.84)	2.96** (0.91 – 7.25)

**p < 0.0001 comparing CVD (+) with CVD (-) groups.

Table 3E: Pearson’s correlation coefficients (95% confidence interval) between the apnea index and hypopnea index at varying degrees of oxyhemoglobin desaturation (ΔSaO_2).

Oxyhemoglobin Desaturation Criteria		Apnea index (events/hr)			
		Any ΔSaO_2	$\Delta\text{SaO}_2 \geq 2\%$	$\Delta\text{SaO}_2 \geq 3\%$	$\Delta\text{SaO}_2 \geq 4\%$
Hypopnea Index	Any ΔSaO_2	0.19 (0.16 – 0.21)	0.18 (0.16 – 0.21)	0.17 (0.15 – 0.20)	0.15 (0.13 – 0.18)
	$\Delta\text{SaO}_2 \geq 2\%$	0.29 (0.27 – 0.31)	0.30 (0.27 – 0.32)	0.29 (0.27 – 0.32)	0.28 (0.26 – 0.30)
	$\Delta\text{SaO}_2 \geq 3\%$	0.33 (0.31 – 0.36)	0.35 (0.32 – 0.37)	0.36 (0.33 – 0.38)	0.36 (0.34 – 0.38)
	$\Delta\text{SaO}_2 \geq 4\%$	0.35 (0.33 – 0.37)	0.36 (0.34 – 0.38)	0.38 (0.36 – 0.40)	0.40 (0.38 – 0.42)

Figure 1E: Adjusted log odds for prevalent cardiovascular disease derived from multivariable logistic regression models for the apnea index at different oxyhemoglobin desaturation thresholds (A: $\geq 4\%$, B: $\geq 3\%$, C: $\geq 2\%$, D: Any desaturation). Covariates include age, gender, race, body mass index, waist circumference, neck circumferences, total cholesterol, HDL cholesterol, smoking status, and the hypopnea index at the same threshold as the apnea index. Cut-points for the first quartile were as follows: (A) < 0.01 events/hr; (B) < 0.14 events/hr; (C) < 0.17 events/hr; and (D) < 0.22 events/hr.

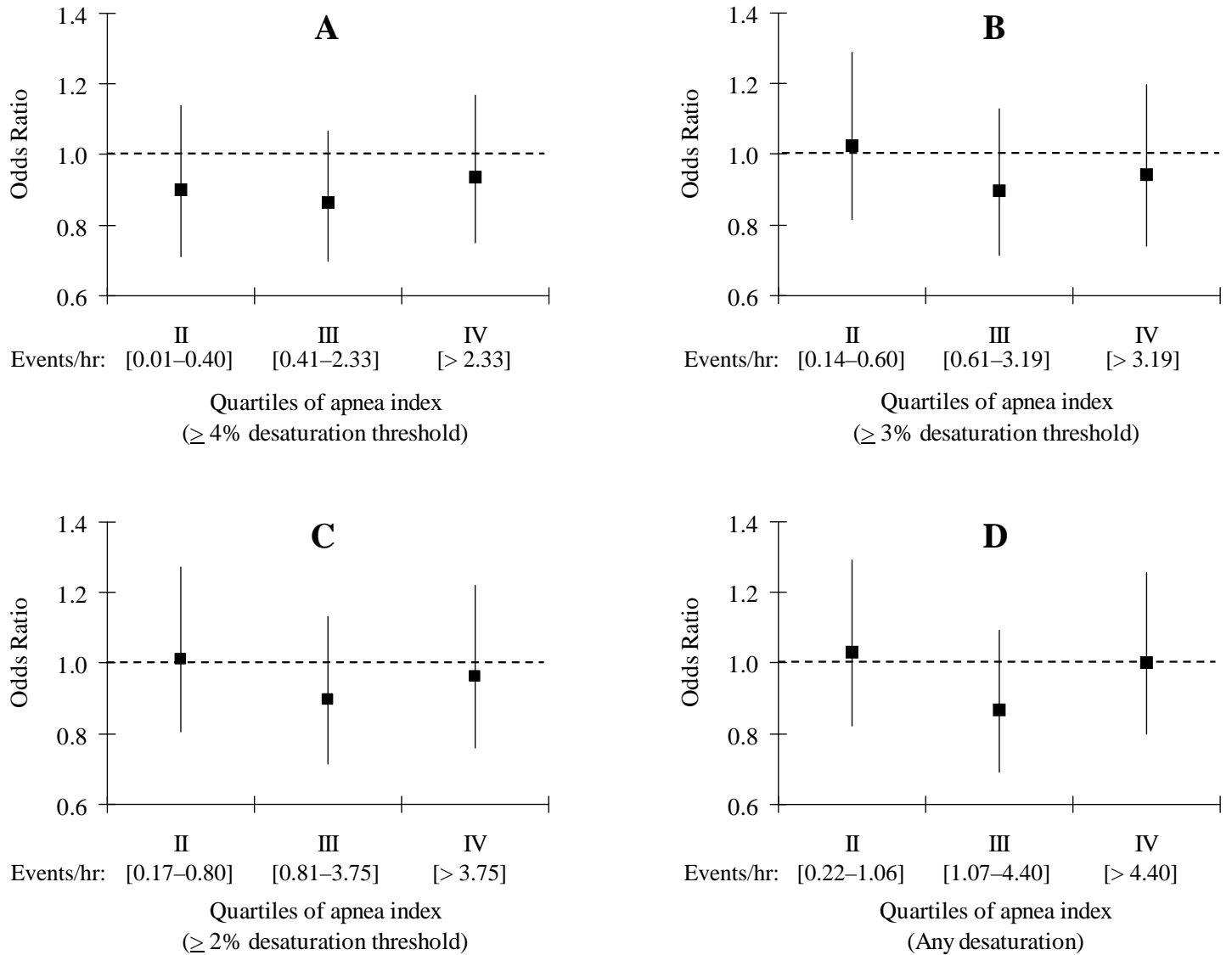


Figure 2E: Adjusted log odds for prevalent cardiovascular disease derived from multivariable logistic regression models for the hypopnea index at different oxyhemoglobin desaturation thresholds (A: $\geq 4\%$, B: $\geq 3\%$, C: $\geq 2\%$, D: Any desaturation). The criteria for defining hypopneas included the presence of oxyhemoglobin desaturation or an EEG arousal. Covariates include age, gender, race, body mass index, waist circumference, neck circumferences, total cholesterol, HDL cholesterol, smoking status, and the hypopnea index at the same threshold as the apnea index. Cut-points for the first quartile were as follows: (A) < 3.98 events/hr; (B) < 5.80 events/hr; (C) < 10.16 events/hr; and (D) < 17.12 events/hr.

