Association of Sedentary Time and Incident Hospitalized Heart Failure in Postmenopausal Women

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SUPPLEMENTAL MATERIAL

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Short List of WHI Investigators

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https://www.whi.org/researchers/Documents%20%20Write%20a%20Paper/WHI%20Investigator%20Long%20List.pdf

Supplemental Table I. Baseline characteristics according to heart failure incidence. (Data are mean ±SD, or %).

Characteristic	Incident Heart Failure		P-value*	Age-standardized HF Rate†
	Case (n=1,402)	**Noncase** (n=79,580)		
Age, years	68.7 ± 6.6	63.3 ± 7.3	<.001	
50-59	10.8	33.1		0.69
60-69	38.3	44.4		1.91
70-79	50.9	22.5		5.08
Race-ethnicity			<.001‡	
White	89.2	84.9		2.34
African American	6.9	7.1		2.52
Hispanic	1.4	3.4		1.40
Native American	0.5	0.4		3.97
Asian / Pacific Islander	0.9	3.0		0.68
Unknown	1.1	1.3		2.04
Education			<.001	
High school or less	24.8	19.6		2.69
Some college	40.1	36.0		2.48
College graduate	34.7	43.6		1.95
Household income			<.001	
<$20,000	23.9	12.6		3.54
$20,000-49,000	44.9	40.3		2.35
$50,000-74,999	14.0	19.7		1.81
≥$75,000	10.0	20.4		1.71
Smoking			<.001	
Never	46.7	50.7		2.03
Past	42.2	42.5		2.35
Current	9.3	5.8		4.53
Alcohol Use			<0.001	
Never	12.6	10.3		2.57
Past	22.2	17.2		2.88
Current	64.9	72.0		2.12
Hormone therapy use			<0.001	
Never	50.2	39.3		2.68
Past	17.3	14.6		2.31
Current	32.5	46.1		1.90
BMI, kg/m²	28.3 ± 6.4	26.8 ± 5.4	<.001	
< 18.5	1.8	1.2		3.28
18.5 - <25.0	32.8	42.1		1.77
25.0 - <30.0	32.5	34.6		2.09
≥ 30.0	33.0	22.1		3.63
Total physical activity, MET-hr/wk	11.5 ± 12.1	14.5 ± 14.5	<0.001	
0	14.9	11.4		3.10
>0 - 7.4	32.0	27.0		2.70
≥ 7.5	53.1	61.6		1.96
ADL score	4.0 ± 0.4	4.0 ± 0.3	.02	

Physical function score	75.6 ± 17.1	85.6 ± 14.5	<.001	
Systolic BP, mmHg	136.0 ± 19.9	126.2 ± 17.7	<.001	
Diastolic BP, mmHg	73.9 ± 10.6	74.7 9.3	.003	
History of:				
Hysterectomy			<0.001	
Yes	46.7	40.7		2.55
No	53.3	59.3		2.11
Diabetes§			<0.001	
Yes	13.9	3.0		10.09
No	85.7	96.9		2.03
Hypertension§			<0.001	
Yes	65.7	38.4		3.46
No	33.7	61.1		1.43
CHD			<0.001	
Yes	12.1	2.4		9.05
No	86.2	96.3		2.07
Stroke			<0.001	
Yes	3.5	1.1		6.57
No	96.4	98.9		2.24
Atrial fibrillation			<0.001	
Yes	12.8	3.9		6.01
No	85.2	94.8		2.09

* P-value computed from a linear (continuous) or logistic (dichotomous) model with the

demographic variable as a function of heart failure event status.

†Rate (HF cases per 1,000 person-years) standardized to the overall WHIOS enrollment age distribution

(50-59, 60-69, 70-79 years).

‡Comparing percentage of whites versus nonwhites.

§History of physician-diagnosis and treatment using medication.

Physical function score ranges from 0-100; higher scores reflect better functional status.

ADL, activities of daily living score ranges from 4-12; lower values reflect greater independence.

BMI, body mass index.

BP, blood pressure.

CHD, coronary heart disease (myocardial infarction, coronary revascularization procedures).

MET-hr/wk, metabolic equivalent hours per week.

Supplemental Table II. Associations between time-varying sitting time and heart failure incidence stratified on baseline subgroups.

Subgroup	N	Cases	Rate*	≤4.5	4.6-8.5	>8.5	Interaction P-value
Age, yr							.94
50-64	44,381	331	0.92	1.00 (ref)	1.03 (0.79, 1.33)	1.32 (1.01, 1.74)	
65-79	36,601	1,071	3.81	1.00 (ref)	1.10 (0.96, 1.26)	1.32 (1.12, 1.57)	
Race-ethnicity[†]							.08
White	68,787	1,250	2.27	1.00 (ref)	1.08 (0.95, 1.23)	1.39 (1.20, 1.62)	
Black	5,738	97	2.23	1.00 (ref)	1.29 (0.83, 2.00)	1.19 (0.67, 2.09)	
BMI, kg/m^2							.11
<30	62,905	940	1.87	1.00 (ref)	1.13 (0.98, 1.31)	1.47 (1.23, 1.76)	
≥30	18,077	462	3.29	1.00 (ref)	0.98 (0.79, 1.21)	1.14 (0.90, 1.45)	
Diabetes[‡]							.71
Present	2,612	195	10.29	1.00 (ref)	1.31 (0.94, 1.83)	1.30 (0.89, 1.91)	
Absent	78,285	1,202	1.93	1.00 (ref)	1.05 (0.92, 1.19)	1.35 (1.15, 1.57)	
Hypertension[‡]							.11
Present	22,219	719	4.22	1.00 (ref)	1.17 (0.99, 1.39)	1.51 (1.23, 1.84)	
Absent	58,140	670	1.43	1.00 (ref)	0.98 (0.83, 1.16)	1.18 (0.96, 1.46)	
History of CHD[§]							.99
Present	22,219	170	11.30	1.00 (ref)	1.10 (0.77, 1.56)	1.34 (0.90, 2.01)	
Absent	58,140	1,209	1.95	1.00 (ref)	1.09 (0.95, 1.24)	1.34 (1.15, 1.57)	
Physical function							.46
<70	10196	422	5.50	1.00 (ref)	1.13 (0.90, 1.42)	1.32 (1.02, 1.71)	
70-89	24329	546	2.87	1.00 (ref)	1.06 (0.88, 1.29)	1.42 (1.13, 1.78)	
≥90	45695	417	1.13	1.00 (ref)	1.01 (0.81, 1.24)	1.11 (0.84, 1.46)	
Physical activity, MET-hr/wk							.65
0	9,293	209	2.89	1.00 (ref)	1.11 (0.80, 1.55)	1.36 (0.95, 1.94)	
>0-7.4	21,916	449	2.61	1.00 (ref)	1.04 (0.84, 1.29)	1.22 (0.95, 1.57)	
≥7.5	49,773	744	1.87	1.00 (ref)	1.09 (0.93, 1.29)	1.42 (1.16, 1.73)	

Data are hazard ratio (95% confidence interval). BMI, body mass index; CHD, coronary heart disease; MET-hr/wk, metabolic equivalent hours per week.

Hazard ratios from models of heart failure as a function of categorical sedentary time, the subgroup of interest, their interaction, and are adjusted for Model 4 covariates in Table 2.

*Crude rate, cases per 1,000 person-years.

†Insufficient data for meaningful stratification on other race-ethnic groups.

‡History of physician-diagnosis and treatment using medication.

§Not adjusted for time-varying CHD.

BMI, body mass index.

CHD, coronary heart disease (myocardial infarction, coronary revascularization procedures).

MET-hr/wk, metabolic equivalent hours per week.