Underweight and Obesity and Active Life Expectancy

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Réseau Espérance de Vie en Santé

International Network on Health Expectancy

Last Year

- Obesity and Active Life Expectancy
  - Observed "survivor" effect on death rates – Obese had lower death rates
  - Skepticism led us to separate out by Gender
- Paper–The Gerontologist–Aug. 2005?
  - Essentially small survivor effects found in males, only after 90, and don't reach significance
  - NO obesity effect on mortality for women

New Results/Conclusions

- Essentially unchanged
- EXCEPT:
  - No meaningful relationship between obesity and mortality
  - Obesity significantly increases probability of disability, and years/% of life lived in disability
  - Vice versa re: recovery to activity

NAASO, 2004

Presented this paper

Major figure in Obesity Research

Dr. Barry Popkin

PLUS Reviewers of TG article

Query? What about the underweight?

Underweight and Obese and ALE

- Two separate analyses:
  - Underweight vs. Normal/Overweight
  - Obese vs. Normal/Overweight
- Possible to combine results, as Normal/Overweight results are nearly identical in both runs
- Same basic model

Data & Methods

Three Waves of Asset and Health Dynamics Among the Oldest Old (AHEAD) survey of adults 70 and older.

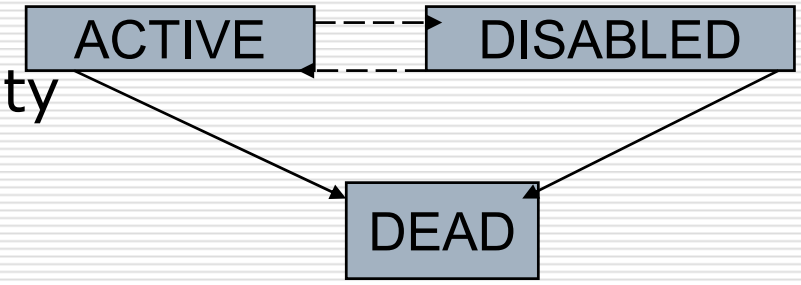
n=7,381

Statistical Technique

- Multi-State Life Table using IMaCh

3 States:

- Active: no ADL difficulty
- Disabled: any ADL difficulty
- Dead: no problem at all



Hypotheses

In contrast to Obesity which had little impact on mortality, I anticipated that being Underweight would have a significant negative impact on Life Expectancy

Also in contrast to Obesity, I anticipated that being Underweight would have little impact on Disability

Total Life Expectancy- Males

	Underweight	Normal/OW	Obese
70	8.1	13.0	12.7
80	4.2	7.3	7.2
90	2.9	4.0	4.4

Total Life Expectancy - Females

	Underweight	Normal/OW	Obese
70	11.5	16.6	16.4
80	6.4	10.0	10.2
90	3.7	5.8	6.1

Years and % Remaining Life Disabled - Males

	Underweight		Normal/OW		Obese	
	Yrs.	%	Yrs.	%	Yrs.	%
70	1.9	24.1	2.4	18.5	3.9	29.3
80	1.8	42.0	2.1	29.4	3.3	45.0
90	0.9	31.5	1.7	43.3	2.6	50.0

Years and % Remaining Life Disabled - Females

	Underweight		Normal/OW		Obese	
	Yrs.	%	Yrs.	%	Yrs.	%
70	3.2	27.6	4.8	28.8	7.0	43.6
80	3.0	47.3	4.2	41.7	5.9	56.6
90	2.3	61.7	3.3	56.5	4.5	71.8

Difference in Death-Significant Odds-Ratios only

	Obese	Underweight
Age	0.358**	
Age^2	1.007**	
Female		0.310***
Hispanic		0.264*
Diabetes	1.815**	
Cancer		2.064*
# ADLs		1.303**
Smoker	5.709***	3.386***
Vigorous Exer.	0.067***	0.129***
Adj R^2	.2067	.3601
H-L p-value	.6394	.9402

Summary of Results

- 1st Hypothesis – is confirmed
  - Being underweight has a significantly negative effect on the life expectancy
- 2nd Hypothesis – is not confirmed
  - Being underweight actually results in having a lower disabled life expectancy
  - However, they also have a lower active life expectancy due to fewer years lived
  - Result is higher percent of life lived disabled.
- Generally, results were as expected
  - Certainly it's clear that Disability is the big Issue for Obese older adults, and both Disability and Mortality are big Issues for Underweight older adults.

Factors Associated with Death in Underweight and Obese

- Underweight:
  - Age, Diabetes, Smoking, and Lack of Vigorous Exercise
- Obese:
  - Male, NonHispanic, Cancer, Smoking, and Lack of Vigorous Exercise
- Not a surprise – but curious that ADLs are significant w/ Underweight
  - Possible interactions going on?

Deserves further analysis

This was Logistic Regression on Dead/Not Dead between 1993 and 1998

Need to develop full model and

Given all dated information available, run as Cox Regression Models