

体脂肪率は死亡のリスクになるか？(150422)

学生がトクホのコマーシャルをみて疑問に思ったとのこと。体脂肪率を減らすというけれど、そもそも、体脂肪率が高いことは死亡のリスクになるのか。



(伊右衛門のコマーシャルより)

文献 1 はメルボルンの住人を対象として、体脂肪率などと死亡リスクを 11 年間評価したコホート研究。99.3% of whom were 40 to 69 years of age と記載されており、中年以降が対象となっている。

男性は体脂肪率 27.5%～30.3%で最も死亡率が低い。それ以上でもそれ以下でも徐々にリスクは上昇する傾向で、33.6%～45.8%になると有意に死亡が上昇している(1.2 倍)。

女性でも 27.5%～30.3%で最も死亡率が低くて、それ以上でもそれ以下でも徐々にリスクは上昇する傾向だ。ただ、有意とは言えない。

Comparing the top quintile with the second quintile, for men there was an increased risk of between 20% and 30% for all-cause mortality associated with each of the anthropometric measures. For women, there was an increased risk of 30% (95% confidence interval for hazard ratio, 1.1–1.6) observed for waist circumference and 50% (1.2–1.8) for waist-to-hip ratio, but little or no increased risk for BMI, fat mass, and percentage fat. Waist-to-hip ratio was positively and monotonically associated with all-cause mortality for both men and women. There was a linear association between waist circumference and all-cause mortality for men, whereas a U-shaped association was observed for women.

Table 5. Anthropometric risk factors for all-cause mortality for males and females

	Hazard ratio* (95% CI) for men				Hazard ratio* (95% CI) for women			
	All	Never-smokers	Past smokers	Current smokers	All	Never-smokers	Past smokers	Current smokers
BMI (kg/m ²)								
<23	1.3 (1.1,1.6)	0.9 (0.6,1.3)	1.3 (1.0,1.7)	1.8 (1.2,2.6)	1.2 (1.0,1.5)	1.1 (0.9,1.4)	1.3 (0.9,1.9)	1.4 (0.9,2.1)
23 to 24.9	1	1	1	1	1	1	1	1
25 to 27.4	0.9 (0.8,1.1)	1.1 (0.8,1.4)	0.9 (0.8,1.2)	0.7 (0.5,1.0)	0.8 (0.7,1.0)	0.8 (0.6,1.1)	0.8 (0.6,1.2)	0.8 (0.5,1.3)
27.5 to 29.9	1.0 (0.8,1.1)	0.9 (0.7,1.2)	1.0 (0.8,1.2)	1.1 (0.7,1.5)	0.9 (0.8,1.2)	1.0 (0.8,1.3)	0.9 (0.6,1.4)	0.7 (0.4,1.2)
≥30	1.1 (1.0,1.3)	1.2 (0.9,1.6)	1.1 (0.9,1.4)	1.0 (0.7,1.5)	1.1 (0.9,1.3)	1.2 (0.9,1.5)	1.2 (0.8,1.7)	0.7 (0.4,1.1)
WC (cm)								
<79 (M)/<68 (F)	1.1 (0.8,1.4)	0.8 (0.5,1.3)	1.0 (0.7,1.5)	1.6 (1.0,2.4)	1.3 (1.1,1.6)	1.2 (0.9,1.6)	1.7 (1.1,2.4)	1.3 (0.8,2.1)
79 to 93.9 (M)/68 to 79.9 (F)	1	1	1	1	1	1	1	1
94 to 102 (M)/80 to 88 (F)	1.0 (0.9,1.1)	1.0 (0.8,1.2)	1.0 (0.9,1.2)	1.0 (0.7,1.3)	1.0 (0.8,1.1)	1.0 (0.8,1.2)	1.0 (0.7,1.4)	0.9 (0.6,1.4)
≥102 (M)/≥88 (F)	1.3 (1.1,1.4)	1.3 (1.0,1.6)	1.3 (1.1,1.5)	1.3 (1.0,1.7)	1.3 (1.1,1.5)	1.4 (1.1,1.6)	1.1 (0.9,1.5)	1.0 (0.7,1.5)
WHR								
<0.88 (M)/<0.73 (F)	1.1 (0.9,1.3)	1.2 (0.9,1.6)	0.9 (0.7,1.2)	1.4 (0.9,2.1)	1.3 (1.0,1.6)	1.4 (1.0,1.8)	1.4 (0.9,2.2)	0.6 (0.3,1.3)
0.88 to 0.90 (M)/0.73 to 0.75 (F)	1	1	1	1	1	1	1	1
0.91 to 0.93 (M)/0.76 to 0.79 (F)	1.1 (0.9,1.3)	1.4 (1.0,1.9)	1.0 (0.8,1.2)	1.2 (0.8,1.7)	1.3 (1.0,1.5)	1.5 (1.1,1.9)	1.0 (0.7,1.5)	1.0 (0.6,1.6)
0.94 to 0.96 (M)/0.80 to 0.83 (F)	1.2 (1.0,1.4)	1.3 (1.0,1.8)	1.1 (0.9,1.4)	1.2 (0.8,1.8)	1.2 (1.0,1.4)	1.3 (1.0,1.7)	1.1 (0.8,1.7)	0.9 (0.5,1.4)
≥0.97 (M)/≥0.84 (F)	1.3 (1.1,1.5)	1.5 (1.1,2.1)	1.2 (0.9,1.4)	1.5 (1.1,2.2)	1.5 (1.2,1.8)	1.7 (1.4,2.2)	1.3 (0.9,1.8)	1.2 (0.7,1.8)
Fat mass (kg)								
<17.4 (M)/<20.1 (F)	1.2 (1.0,1.4)	1.2 (0.9,1.6)	1.0 (0.8,1.3)	1.6 (1.1,2.2)	1.0 (0.8,1.1)	0.8 (0.6,1.0)	1.2 (0.9,1.8)	1.2 (0.8,1.9)
17.4 to 21.2 (M)/20.1 to 24.3 (F)	1	1	1	1	1	1	1	1
21.3 to 24.8 (M)/24.4 to 28.7 (F)	1.0 (0.9,1.2)	1.1 (0.9,1.5)	0.9 (0.7,1.1)	1.1 (0.8,1.6)	0.7 (0.6,0.9)	0.7 (0.6,0.9)	0.7 (0.4,1.0)	0.9 (0.6,1.5)
24.9 to 29.3 (M)/28.8 to 34.9 (F)	1.1 (0.9,1.3)	1.1 (0.8,1.5)	1.0 (0.8,1.2)	1.3 (0.9,1.9)	0.9 (0.7,1.0)	0.8 (0.7,1.0)	0.9 (0.6,1.3)	1.0 (0.6,1.6)
≥29.4 (M)/≥35.0 (F)	1.3 (1.1,1.5)	1.3 (1.0,1.7)	1.2 (1.0,1.5)	1.3 (0.9,1.9)	1.0 (0.8,1.2)	1.0 (0.8,1.2)	1.0 (0.7,1.5)	0.8 (0.5,1.4)
Percentage fat (%)								
<24.0 (M)/<34.1 (F)	1.1 (0.9,1.3)	1.1 (0.8,1.5)	0.9 (0.7,1.2)	1.6 (1.1,2.3)	1.0 (0.9,1.2)	0.9 (0.7,1.2)	1.3 (0.9,1.8)	1.0 (0.7,1.6)
24.0 to 27.4 (M)/34.1 to 38.4 (F)	1	1	1	1	1	1	1	1
27.5 to 30.3 (M)/38.5 to 41.8 (F)	0.9 (0.8,1.1)	0.9 (0.6,1.2)	0.9 (0.7,1.1)	1.3 (0.9,1.9)	0.8 (0.7,1.0)	0.8 (0.7,1.1)	0.7 (0.5,1.1)	0.8 (0.5,1.3)
30.4 to 33.5 (M)/41.9 to 45.7 (F)	1.0 (0.9,1.2)	1.2 (0.9,1.6)	0.9 (0.7,1.1)	1.2 (0.8,1.7)	0.8 (0.7,1.0)	0.9 (0.7,1.1)	0.9 (0.6,1.3)	0.6 (0.4,1.0)
≥33.6 (M)/≥45.8 (F)	1.2 (1.1,1.4)	1.2 (0.9,1.6)	1.2 (1.0,1.5)	1.5 (1.0,2.1)	1.0 (0.8,1.2)	1.0 (0.8,1.3)	1.1 (0.7,1.5)	0.9 (0.6,1.4)

CI, confidence interval; WC, waist circumference; WHR, waist-to-hip ratio.

* Adjusted for age at attendance, country of birth, physical activity, alcohol intake, education, smoking status, living alone (men only) and family history of heart attack (men only); and stratified by "previous history of heart attack, angina, diabetes, stroke, and cancer."

(参考文献 1 より引用)

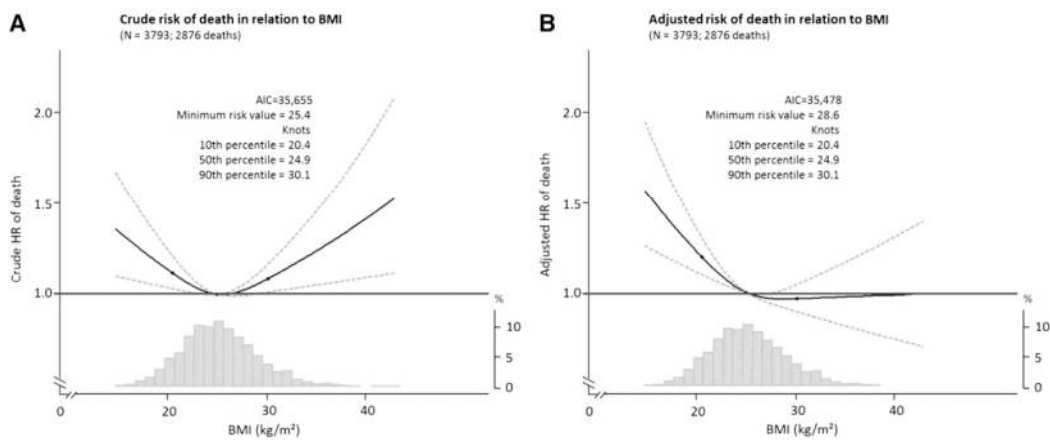
長生きしたいなら、体脂肪率だけに注目するよりは、別の指標にも注意したほうが理にかなうと思う。いずれにしても、すこしポッチャリしているくらいの方が長生きそうだ。

75 歳以上の高齢女性を対象とした 17 年間のコホート研究 2) では、体脂肪が 10% 増加すると、死亡率が 12% 減少しているという。これは驚きの結果だ。

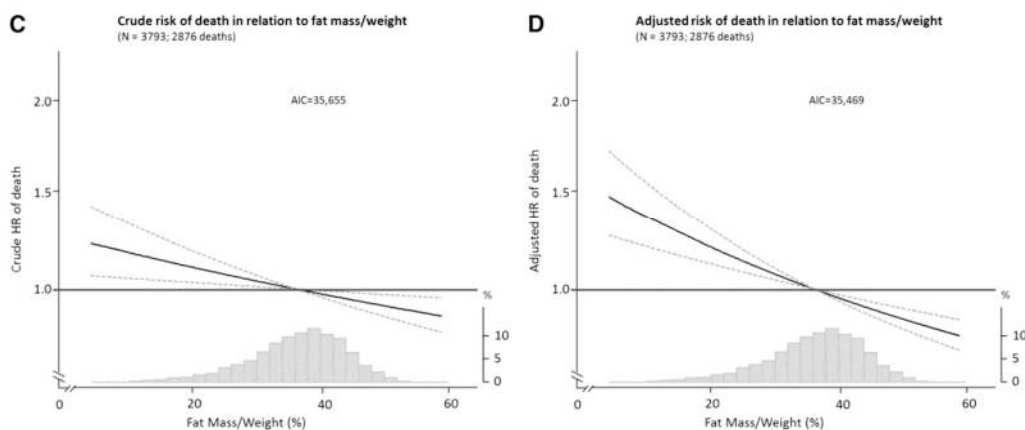
Adjusted risk of death was significantly higher in participants with BMI \leq 24.6 and fat mass/height² \leq 8.2 kg/m². There was a negative linear association between fat mass (%) and risk of death: a 10% increase in fat mass was associated with a 12% reduction of mortality risk (adjusted HR: 0.88; 95% CI: 0.84, 0.92; P < 0.001). Linear and statistically significant relations were shown between lean mass/height² and risk of death in crude but not adjusted analyses.

ADIPOSIITY AND RISK OF DEATH IN OLDER WOMEN

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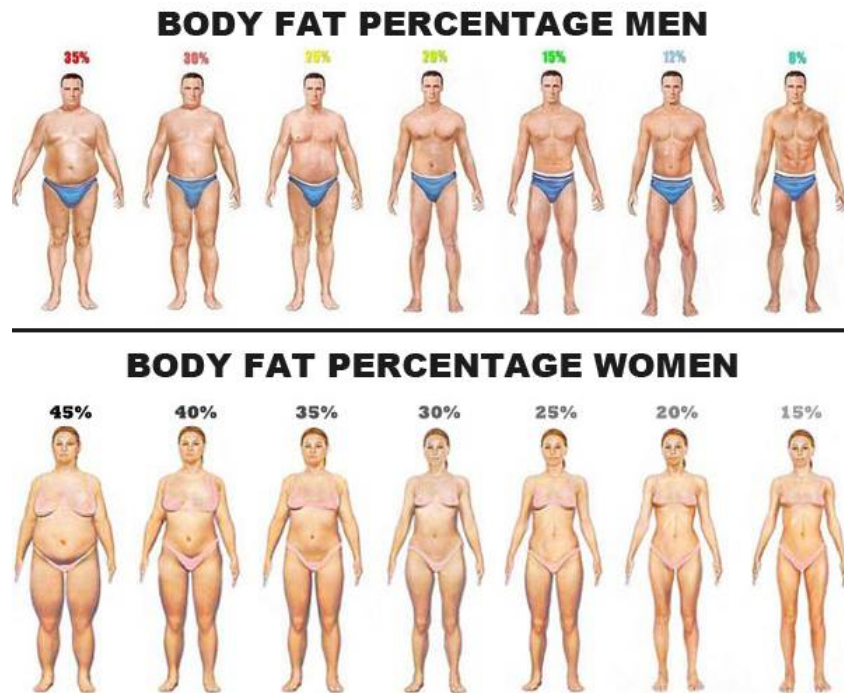


(参考文献 2 より引用)



(参考文献 2 より引用)

体脂肪率は、世間一般のイメージと違って、すこし高めでもいい気もしてくる(特に高齢者)。もちろん、容姿を気にするという気持ちも分かる。脂肪と死亡の関係は、今までの常識より少し呑気なぐらいのほうがいいかもしれないが、体脂肪率と人生の豊かさに関してはそんなに単純ではない。そもそも、体脂肪率の測定をやめてしまえば、気にしなくて済む。そういうことにしておきたい。



(Bjj Eastern Europe ホームページより引用)

<http://www.bjee.com/articles/scientists-measure-how-body-fat-increase-affects-athletic-performance/>)

参考文献

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2. Rolland Y, Gallini A, Cristini C, Schott AM, Blain H, Beauchet O, Cesari M, Lauwers-Cances V. Body-composition predictors of mortality in women aged ≥ 75 y: data from a large population-based cohort study with a 17-y follow-up. *Am J Clin Nutr*. 2014 Nov;100(5):1352-60. doi: 10.3945/ajcn.114.086728. Epub 2014 Aug 27. PubMed PMID: 25332333.