

# Gout and sugary drinks

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Diet:  
Purines  
Fructose  
Alcohol



Diuretics

Overproduction

Underexcretion



Genetics



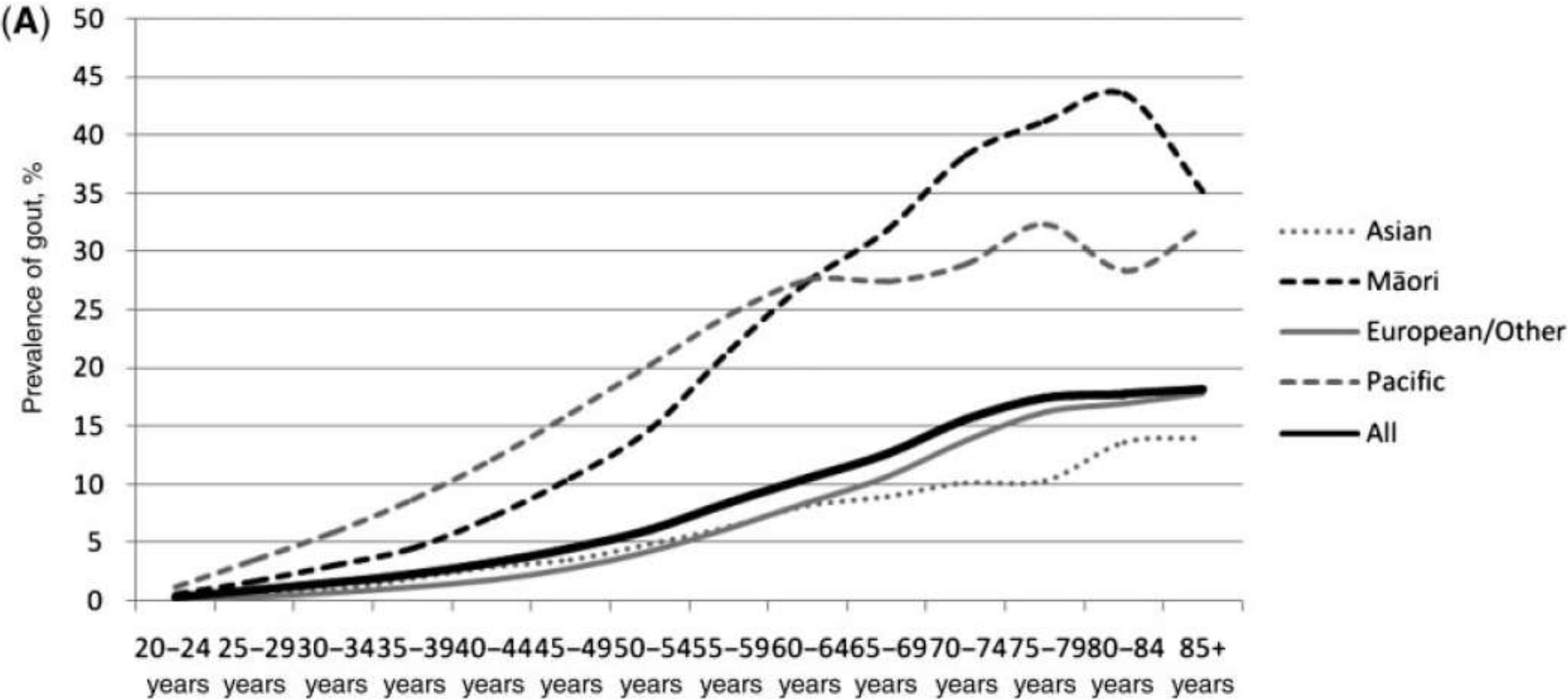
Hyperuricemia

Genetics

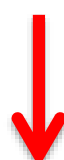
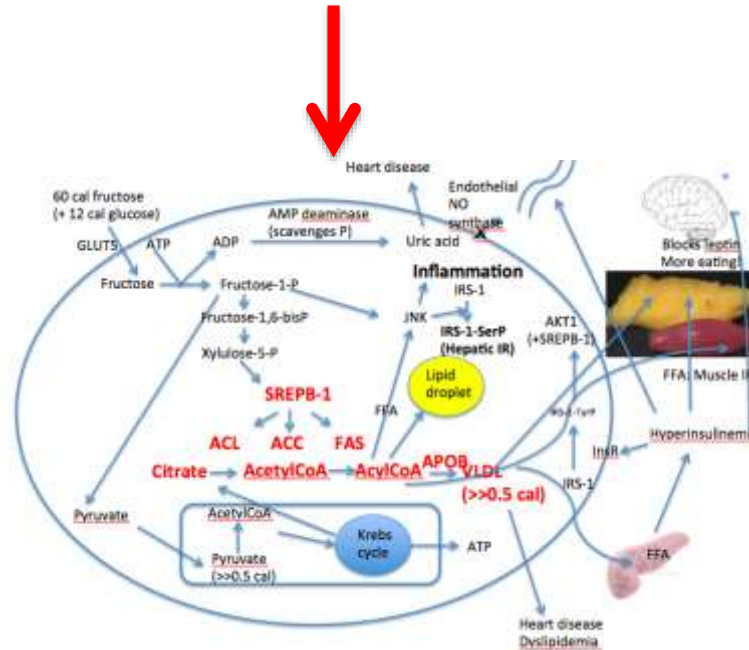


# Prevalence of gout in NZ: men

Winnard, Dalbeth et al *Rheumatology* 2012



# Fructose into the liver



Uric acid

Bad lipid

Hyper-tension

Insulin resistance

Fatty liver

Inflammation

OBESITY, DIABETES, HEART DISEASE,  
KIDNEY DISEASE, GOUT

# Aim

To test for association between sugar-sweetened drink and fruit juice consumption and gout in New Zealand

Used survey data from 1205 people with and 719 people without gout ex 'Genetics of gout in Aotearoa' study

14. How many sugar-sweetened drinks (including fruit juice), but not including diet drinks, do you normally drink per day?

Can or large glass: (Please circle the number that applies)

0      1      2      3      4      5      more than 5

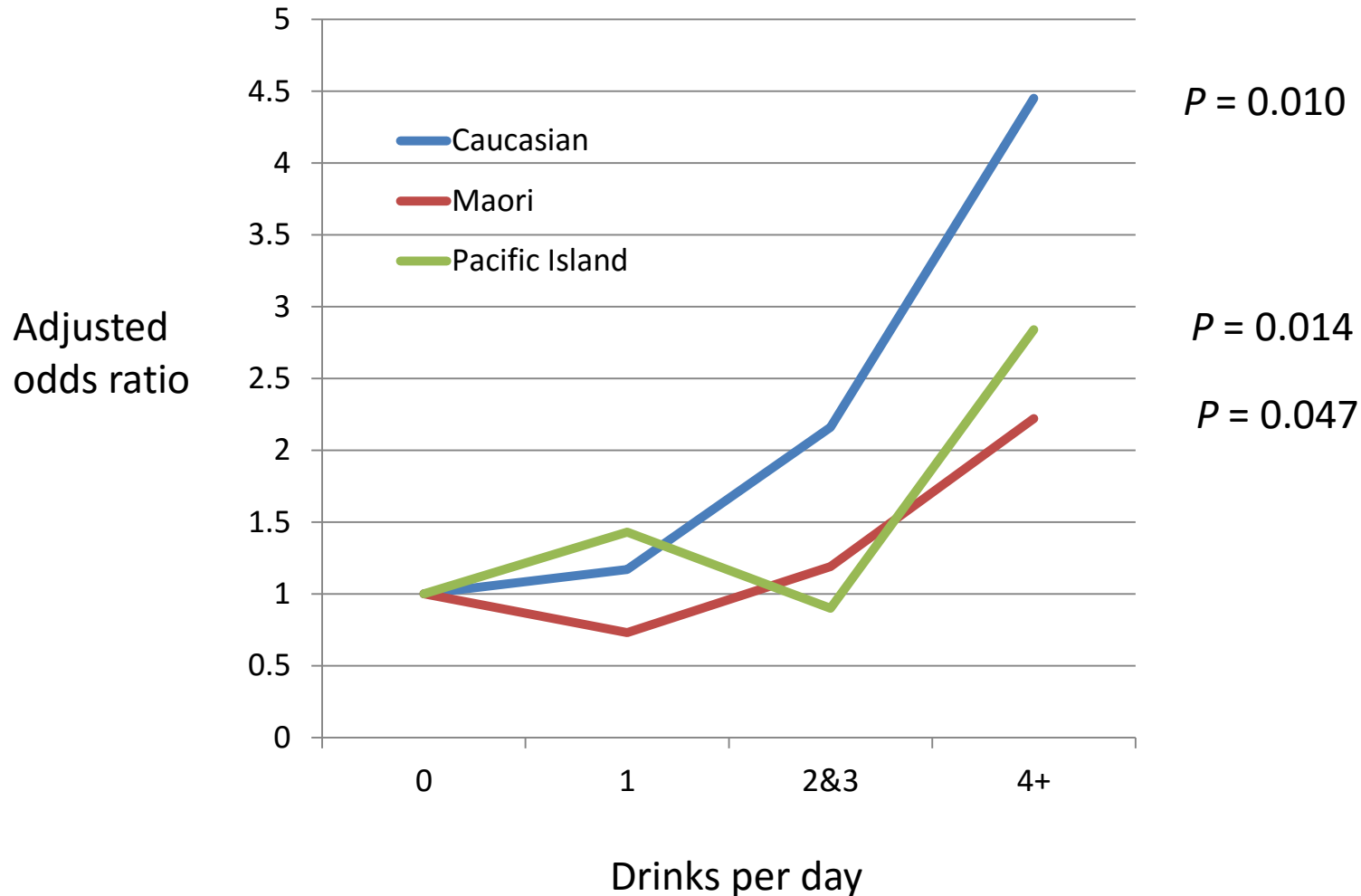
15. How many pieces of whole fresh fruit do you usually eat per day: (please circle the number that applies)

0      1      2      3      4      5      more than 5

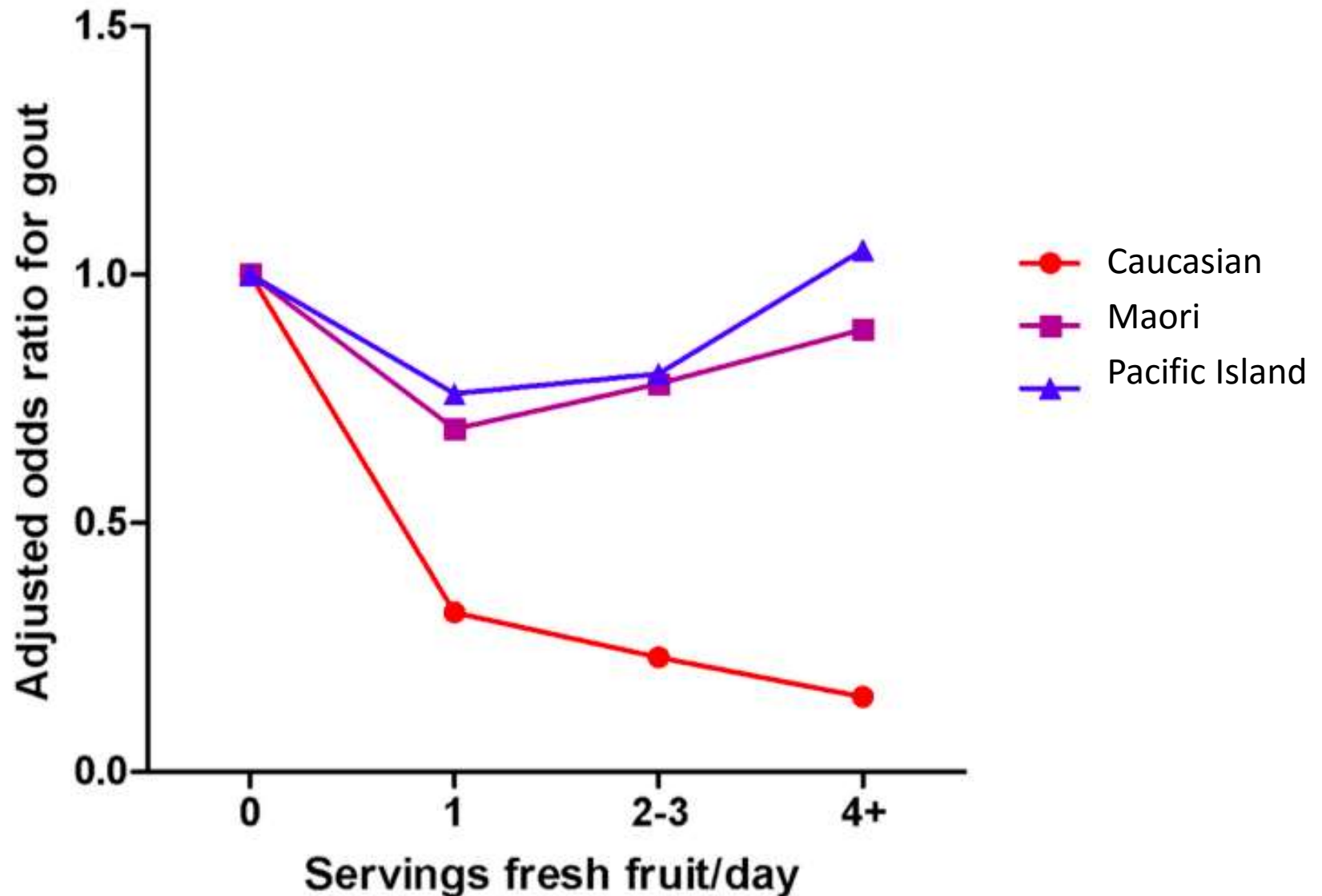
16.3% Pacific; 14.4% Maori; 5% European  
reported drinking  $\geq 4$  SSB servings/day

# Sugary-drink and fruit juice consumption and risk of gout

Batt et al. *Annals of Rheumatic Diseases* 2014;73:2101-7

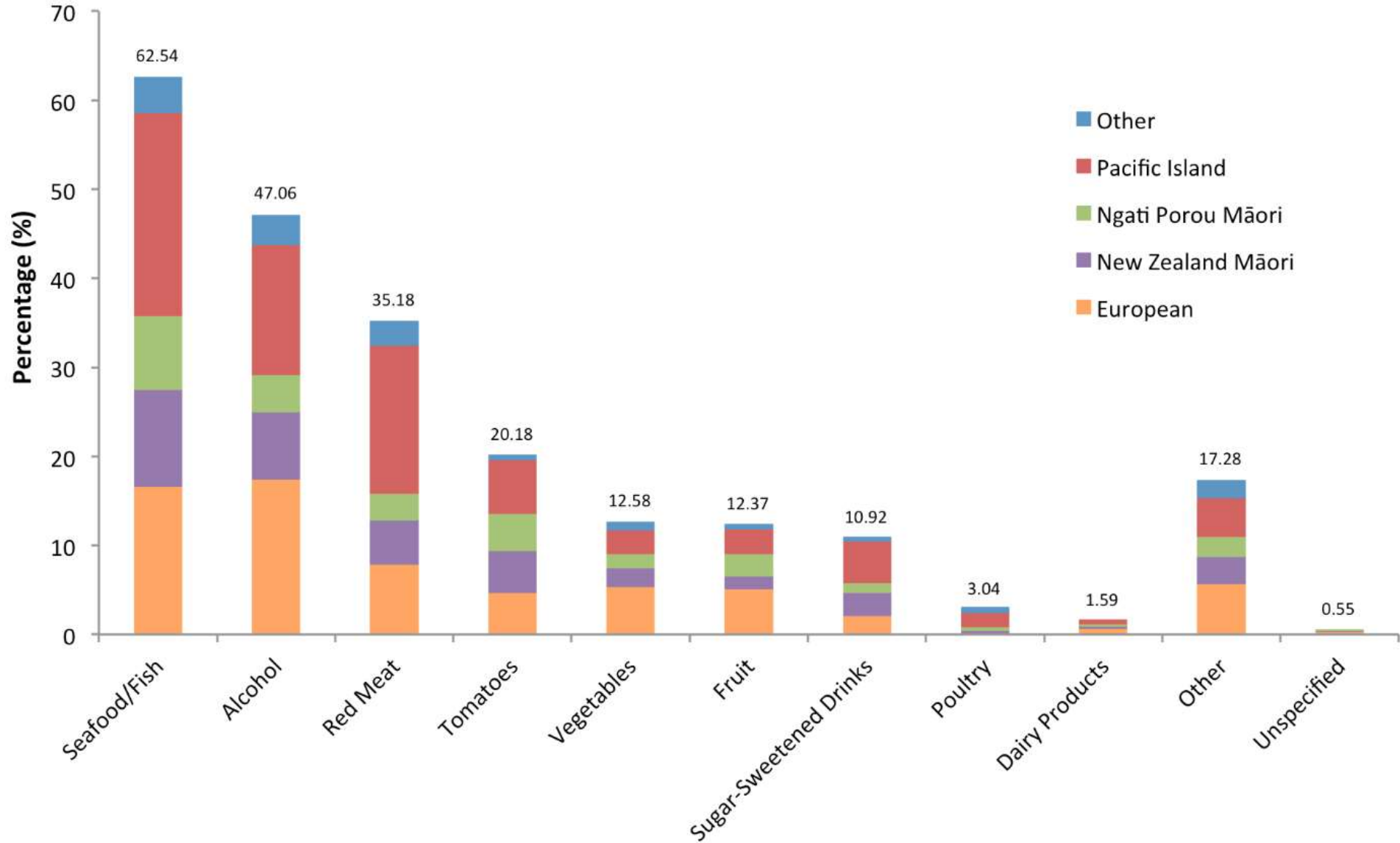


# Fruit consumption and risk of gout





# Frequency of Anecdotal Identification of Food Categories as Triggers of Gout Flares

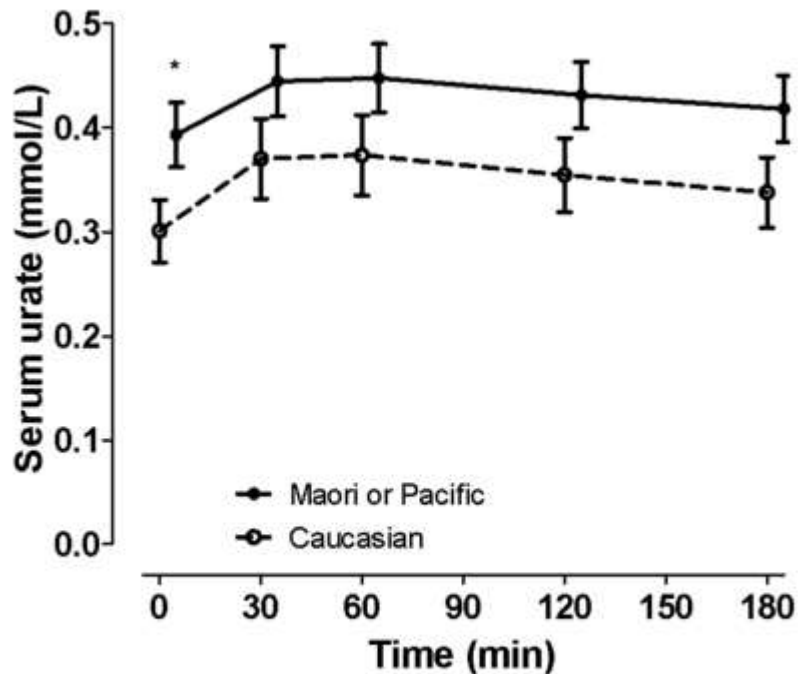


# Clinical study – acute fructose exposure

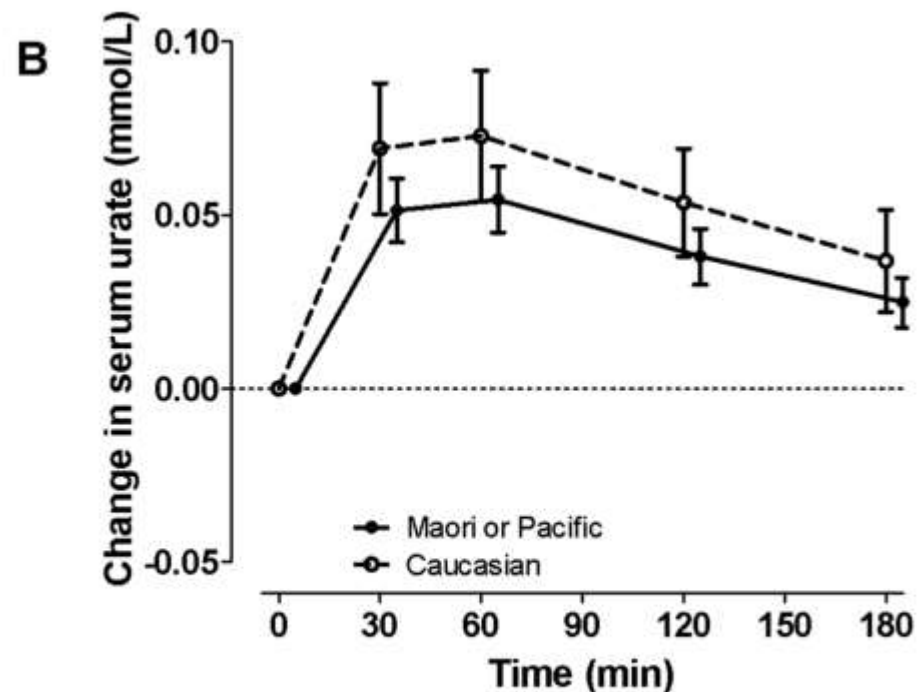
## Greater influence on serum urate in Maori/Pacific

With Prof Dalbeth (UoA)

Dalbeth et al. *Annals Rheum Dis* 2013;72:1868-73



$P_{(time)} < 0.0001$ ,  $P_{(ancestry)} = 0.0034$ ,  $P_{(time*ancestry)} = 0.99$   
Pairwise comparisons \* $P < 0.05$



Mixed model ANCOVA  $P_{(time)} < 0.0001$ ,  $P_{(ancestry)} = 0.002$ ,  $P_{(time*ancestry)} = 0.99$