PREDICTORS OF BODY CLOTHING COVERAGE AMONG A NEW ZEALAND COMMUNITY SAMPLE

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Background
Clothing coverage has been reported for NZ adults during high summer UVR, but not for non-summer months, although both erythema and endogenous vitamin D production are possible, particularly during summer 'shoulder' months. Clothing coverage in non-summer months is, therefore, relevant for skin cancer risk reduction and maintenance of vitamin D levels. Study objectives were to: describe percentage total body clothing coverage; investigate which factors, from a range of plausible predictors, were associated with coverage; consider possible opportunities to inform health promotion programme development and implementation.

Methods
As part of a broader study of sun exposure and serum 25(OH)D3 levels, community volunteers were recruited from two latitude bands (Auckland 37°S, Dunedin 46°S) and four major NZ ethnic groups (Māori, Pacific, Asian, European). Demographics (gender, age, ethnicity, employment status) and personal data (BMI, outdoor work, time spent outdoors, attitudes towards tanning, self-reported skin photosensitivity) were obtained by baseline questionnaire. Seven-day clothing diaries completed 3 times per day were maintained for 8 weeks. Spectrophotometer skin colour measures were obtained. Climatic factors (UVI, temperature, cloud cover, wind speed, humidity) were obtained from the NIWA Cli-Flo database.

Results
There was similar representation across age and ethnic groups, but more females (317) than males (189). Clothing coverage declined in spring among Auckland participants so that it was lower than for Dunedin participants in November and December. Multivariable modelling identified significant predictors of increased clothing coverage: Asian ethnicity, residence in Dunedin (which is cooler than Auckland), the colder seasons (especially winter), greater cloud cover and higher wind speed. A dose response effect was observed for increased clothing coverage with increasing age. Reduced coverage was associated with greater hours spent outdoors, higher temperatures and Māori and Pacific ethnicities. UVI was not associated with clothing coverage, even in unadjusted analysis.

Conclusions and significance
Temperature, wind speed and cloud cover were plausible and strong predictors of coverage. Most predictors are not readily modifiable, with only total hours spent outdoors potentially amenable to change. However, other factors are potentially useful for framing and targeting health promotion messages related to skin cancer prevention and maintenance of healthy vitamin D levels.