



Changes in the pattern of sun-exposure and sun-protection in young children from tropical Australia

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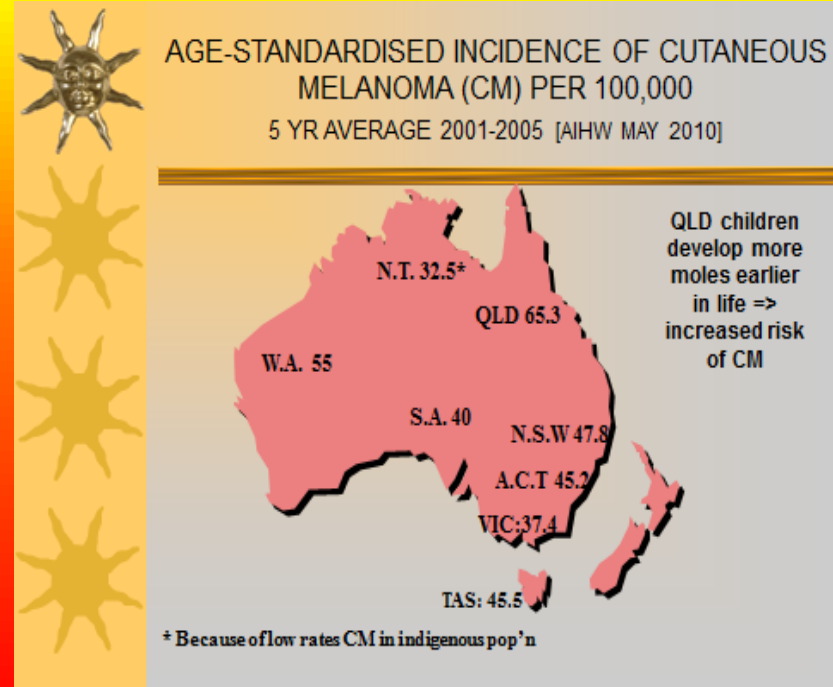
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Background

- Australia has one of the highest rates of skin cancer in the world^{1,2} particularly in north QLD.³
- Life-time risk of skin cancer is linked to sun-exposure in childhood.⁴
- The strongest risk marker for melanoma (number of melanocytic naevi)⁵ is directly linked to high levels of sun-exposure in early childhood.^{6, 7}

References

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Methods



- Two cohorts of ONE (12-23 months) & TWO year-old (24-35 mo) children from tropical Australia (Townsville 19.16°S), were compared:
 - Cohort 1 (n=201) recruited in 1991 from hospital birth records
 - Cohort 2 (n=463) recruited 1999-2002 via childcare centres
- Children's phenotypic characteristics were assessed
- Parents completed questionnaires detailing children's:
 - demographic characteristics
 - sun-exposure
 - sun-protective practices

Results - 1



SUN EXPOSURE

Children from cohort 2 (1 & 2 year-olds [yo]):

- visited the beach more often (both age groups $p < 0.001$)
- swam in an outdoor pool more frequently (1yo $p < 0.001$; 2yo $p = 0.03$)
- 1yo spent more hours outdoors in the previous year than 1yo in cohort 1 (median 2.8 vs 2.2 hr/day, $p = 0.002$; 2yo NS)
- 1yo from cohort 2 spent more hours playing in water in warmer weather than 1yo in cohort 1 (72 vs 42hr/yr, $p = 0.039$; 2yo NS) but less time swimming with their back exposed (both ages, median 0hrs/yr vs 9hrs/yr $p < 0.001$)

By age 2 years:

- more than half the children in both cohorts had been sunburnt

Results - 2



SUN-PROTECTION

More children from cohort 2:

- “almost always “wore a sun-protective shirt when swimming in summer & winter (both ages & seasons, $p<0.001$)
- regularly wore sunscreen (in summer, both ages $p<0.001$); winter 1yo $p=0.023$, 2yo NS)

RISK FACTORS

- Fewer children in cohort 2 had been sunburnt on the posterior trunk (both ages $p<0.001$)
- Fewer children in cohort 2 (1yo 15% vs 40%; 2yo 39% vs 75%;) had acquired melanocytic naevi on their posterior trunk (both ages $p<0.001$)
- Children in cohort 2 tended to have fewer naevi on their posterior trunk (median 2 vs 0 at 2yo) than children in cohort 1 (both ages; $p<0.001$).
- Children in cohort 2 were less likely to have acquired naevi elsewhere on their body (both ages; $p<0.001$)



Conclusions



- Time spent in the sun did not change much in the 8-years that elapsed between cohorts.
- There was however, a significant improvement in sun-protective practices in very young children from a region with a substantial skin cancer burden.
- This \uparrow in swim-shirt and sunscreen use between cohorts coincided with a reduction in the development of melanocytic naevi (MN), particularly on the posterior trunk.
- The reduced burden of MN observed in the most recent cohort may confer some protection against melanoma.
- Skin cancer primary prevention campaigns are having some effect although more emphasis is needed on reducing sun-exposure.