Is Initiating Tanning Bed Use as a Minor Associated With Increased Risky Tanning Behaviors and Burning?

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Funding and Disclosure

Funded by UNC’s Lineberger Comprehensive Cancer Center and the University Cancer Research Fund. AS is supported by the UNC Lineberger Cancer Control Education Program (R25 CA57726).

Conflicts of Interest
None
Major Indoor Tanning Events

- Howard County, MD
- ITA settles with FTC
- IARC Report
- FDA Meeting
- ACA's Indoor Tanning Tax
- CA
- VT

Under 18 Ban
Major Indoor Tanning Events

- **Under 18 Ban**
- 2013: NV, TX, IL
- 2014: WA, FDA Reclassification, LA, MN, DE, HI
- 2015: Washington DC, NC, NH
- 2016: FDA Proposal, MA
Youth Access Restrictions

• High rates of use among youth
  • 31% of white high school girls (2013 YRBSS)
• UV radiation from tanning beds is a known carcinogen
  • 400,000 skin cancer cases in US (Wehner, 2014; PMID: 2447727)
• Younger skin is more susceptible to UV damage
• Youth access restrictions for other carcinogens (e.g., tobacco and alcohol)
Adolescence and Risk-Taking

- Risk-taking *increases* during childhood and adolescence
  - Changes in the brain’s socio-emotional system → increased sensation-seeking
    - Presence of peers
    - e.g., drinking and driving
- Adolescent tanning bed use associated with other risky behaviors
  - Tobacco
  - Alcohol
  - Recreational drugs
  - Unhealthy weight control
  - Non-prescribed steroid use

Steinberg, 2008 (PMC2396566)
Holman, 2013 (PMC4538996)
Miyamoto, 2012 ([PMID: 22325138](http://www.yaabot.com/19868/has-human-brain-stopped-evolving/))
Risky Tanning Behaviors

• Not wearing eye protection
• Longer tanning sessions
• More tanning sessions
• Falling asleep in tanning bed

→ burning
Objective

• Our research objective was to assess the relationship between age of initiation (<18 vs. 18+) with risky tanning behaviors and burning.
Methods

- Parent study: anti-tanning messages
- Convenience sample of undergraduate sorority (female) members at a public university in southeastern US
- Cross-sectional
- Online questionnaire
- Analyses: logistic regression
  - Outcomes: risky tanning behaviors and burning
  - Main IV: tanning initiation before age 18 or not
  - Control variables: age, Hispanic ethnicity, self-reported burn tendency, sun protective behaviors, skin color
Respondent Flow Chart

n=567
Completed Survey

n=359
Never Used Tanning Bed

n=74
Former Tanning Bed Users

n=134
Current Tanning Bed Users

n=74
<18 First Time

n=60
≥18 First Time
<table>
<thead>
<tr>
<th>Participant Characteristics</th>
<th>&lt;18 (n=74)</th>
<th>18+ (n=60)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age of initiation</td>
<td>15.9 (sd=1.3)</td>
<td>18.7 (sd=0.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Mean age</td>
<td>19.8 (sd=1.1)</td>
<td>20.1 (sd=1.0)</td>
<td>0.178</td>
</tr>
<tr>
<td>% Hispanic</td>
<td>8.1</td>
<td>3.3</td>
<td>0.246</td>
</tr>
<tr>
<td>% Usually or sometimes burn when out in sun</td>
<td>41.9</td>
<td>63.3</td>
<td>0.014</td>
</tr>
<tr>
<td>% Fair or very fair skin</td>
<td>50.0</td>
<td>55.0</td>
<td>0.564</td>
</tr>
<tr>
<td>% Half or more than half the time protect skin from sun during summer</td>
<td>81.1</td>
<td>86.7</td>
<td>0.385</td>
</tr>
</tbody>
</table>
Results: Risky Tanning Behaviors

- Usually tan for 10 or more minutes: AOR=2.42
  (95% CI= 1.08, 5.39)

- 10 or more tanning sessions in previous year: AOR=2.07
  (95% CI= 1.07, 3.99)

- Ever tanned on 4 or more days in a week: AOR=2.23
  (95% CI= 1.04, 4.75)

- <18
- 18+ (ref)
Results: Risky Tanning Behaviors

- Ever not worn goggles: AOR = 4.12 (95% CI = 1.36, 12.53)
- Ever fallen asleep: AOR = 9.69 (95% CI = 4.02, 23.37)

Red bars represent <18 years, blue bars represent 18+ years (reference category).
Results: Burning

AOR=2.41
(95% CI= 1.00, 5.81)

AOR=2.36
(95% CI= 1.00, 5.56)
Strengths and Limitations

Strengths
- Population known for having high rates of tanning
- Policy relevance
- Understudied relationship

Limitations
- Homogenous sample
- Small, convenience sample
- Don’t know timing of risky behaviors and burning

Future Research
- Larger, more representative sample
- Longitudinal design
Conclusion

• Tanning bed initiation as a minor was associated with a number of risky tanning behaviors and burning
• Youth access restrictions may help reduce the harms caused by tanning beds

Thanks
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