Introduction

- 4.8 billion people, or 59.9%, of the world’s population, are social media users.
- Social media (SM) is playing an increasingly important role in public health; 77% of cancer patients found the internet to be an important source of health information in their medical journey.
- While social media has many public health strengths (rapid dissemination, broad reach) it also has challenges (primarily misinformation).
- This review focuses specifically on the effects of the new social media communication environment as it pertains to melanoma and keratinocyte cancer. While keratinocyte (basal/squamous cell) cancer is more common, melanoma is more deadly.
- Patients’ risk of skin cancer increases with:
  - Exposure to ultraviolet radiation (UVR) from the sun or indoor tanning facilities;
  - Having decreased melanin in the skin; melanin provides protection from UV induced genetic mutations;
  - Immunosuppression, which reduces the body’s surveillance of the skin;
  - or genetic pathogenic variants

So what?

- We reviewed the current literature to understand how web-based communication around skin cancer impacts public health dynamics.

Table 1: PRISMA Diagram

<table>
<thead>
<tr>
<th>Studies included in review (n = 1130)</th>
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<tbody>
<tr>
<td>Studies screened (n = 600)</td>
</tr>
<tr>
<td>Studies excluded (n = 356)</td>
</tr>
<tr>
<td>Studies sought for removal (n = 159)</td>
</tr>
<tr>
<td>Studies not retrieved (n = 38)</td>
</tr>
<tr>
<td>Studies assessed for eligibility (n = 128)</td>
</tr>
<tr>
<td>Studies excluded (n = 76)</td>
</tr>
<tr>
<td>References removed (n = 596)</td>
</tr>
<tr>
<td>References from other sources (n = 148)</td>
</tr>
<tr>
<td>References obtained (n = 479)</td>
</tr>
<tr>
<td>References from database/sources (n = 1009)</td>
</tr>
</tbody>
</table>

References:

- Nelson, MD
- Kelly, MD
- Texas MD Anderson Cancer Center
- Cancer Prevention Research Training Program

Methods

How does the new social media communication environment relate to Skin Cancer?

What research has addressed this question and what knowledge gaps still exist?

Systematic Literature Review to find the answers!

Included: Research from January 2000 - June 2023, not limited by geography, full text availability in the English language, and inclusion of new communication information and skin cancer

Search sensitivity was tested by the ability for preliminary search strategies to include known, relevant citations. A Covidence library was created to manage the citations and de-duplicate.

Results

- Our review (Table 2) illustrates the current research ecosystem highlighting the large amount of social media misinformation pertaining to skin cancer.
- SM can help researchers connect with patients with rare medical conditions: In relation to research study recruitment, 10 studies used SM to support survey completion, collecting 2,812 patient responses.
- Engagement studies revealed that top content creators for dermatologic information were influencers, celebrities, and public figures - not dermatologists - demonstrating why SM content is so variable.
- Social media-based skin cancer prevention campaigns are effective in increasing their intentions to indoor tan can decrease their trust in evidence-based medicine and may increase their intentions to indoor tan.
- Social media users are at risk for exposure to misinformation which can decrease their trust in evidence-based medicine and may increase their intentions to indoor tan.
- Physician oversight is not pervasive in the new communication ecosystem.
- This review uncovered the importance of collaboration between healthcare and social media industries and introduces possible methods to decrease misinformation.
- Further research is needed to:
  - Understand the quality of skin cancer content on newer social media platforms;
  - Develop intervention methods for efficient physician engagement to reduce misinformation; and
  - Develop and implement prevention campaigns through new avenues such as TikTok.

Conclusions

Acknowledgments:

This work was supported by NIH/NCI R25CA056452 (Priscilla Huff, Shin Chang, Ph.D., Principal Investigator). Scan the QR code above for our reference list.