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Teen daughters and their mothers in conversation: Identifying opportunities for enhancing awareness of risky tanning behaviors

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Abstract

The incidence of melanoma has been increasing dramatically among teenage and young adult women over the past several decades. Despite a causal link between ultraviolet light exposure and melanoma, a significant proportion of young women intentionally tan. Furthermore, we know very little about the family's role in melanoma-related risk practices. Consequently, this study examined twenty-two interviews of adolescent girls and their mothers discussing topics related to sun protection and tanning behavior. Qualitative analysis elicited four primary themes: (1) high rates of prior discussion about indoor tanning, (2) discussion of other risky behaviors that are considered more important than tanning, (3) a desire for increased knowledge of risky tanning behavior, and (4) change in tanning behavior with relevant life experience. Results emphasize the value of educational interventions designed to raise melanoma-related risk awareness, and suggest the potential benefit of improving knowledge maintenance and family engagement through information sharing.

Keywords

Family communication; Tanning; Risk behavior; Sun protection; Health behavior

Introduction

Ultraviolet (UV) light exposure, like that from indoor tanning devices, increases one's risk of developing skin cancer, specifically melanoma (1,2). Melanoma, the deadliest form of skin cancer, has been increasing considerably over the past 40 years among young women, and is the third most common cancer among adolescents and young adults (3). This rising

incidence underscores the importance of prevention, especially since first exposure to indoor tanning before age 35 increases any individual's risk of developing melanoma by 59% (2). By age 18, about 44% of non-Hispanic white girls have indoor tanned at least once (4). Tanning continues into early adulthood, with 14% of women ages 18–29 reporting having tanned indoors at least once in the previous year (5).

Prior work in indoor tanning suggests that adolescents are influenced by their female caregivers (e.g. mothers, grandmothers; 6–8). Adolescents are not only influenced by the permissiveness of their parents regarding indoor tanning, but by their parents' own tanning behaviors (6). Parental influence also appears to be a stronger determinant of indoor tanning behavior than peer influence (8). Yet, most families do not discuss this behavior despite the risks associated with it (6). More information is needed to determine how family practices, messages, and modeling impact adolescents' tanning-related practices. Accordingly, we explored mother/daughter discussions about indoor tanning via semi-structured qualitative interviews, and sought to identify opportunities for developing practical educational interventions to reduce adolescent indoor tanning and to inform healthcare providers' anticipatory guidance for intentional tanning avoidance.

Methods

Twenty-two mother/daughter pairs were recruited from a local high school in Massachusetts as part of a larger study on family discussions of indoor tanning (9). Recruitment targeted 10th and 11th grade female adolescents (aged 15–17) and their mothers. This population was chosen given prevalent risky tanning behavior (4,6,7). Participants were study eligible if both mother and daughter endorsed that they had either tanned indoors in the past year, planned to tan indoors in the next year, and/or felt that they looked better with a tan. Dyads were primarily non-Hispanic White (77%); 18% identified as Brazilian, and one family identified as Hispanic (5%).

Twenty-two semi-structured interviews were performed between May and June 2012 (Table 1). All interviews were video-recorded and conducted by one of three facilitators, two nurses and a teacher, all of whom were trained by the team's qualitative specialist (ES). Recordings were transcribed and checked for accuracy. Transcripts were independently coded by two team members (MG, VMR) using thematic analysis (10). A final code set was created through comprehensive analysis and reliability meetings, and was applied to all 22 interviews. Inconsistencies were discussed and resolved by the coding team. All procedures were approved by Harvard School of Public Health and MSKCC's IRBs.

Results

Table 2 presents the range of themes discussed during the interviews. Many dyads (96%) had previously discussed indoor tanning. However, most (91% of mothers, 91% of daughters) reported no current indoor tanning, and 63% of dyads indicated no interest in indoor tanning. Mother/daughter discussions further demonstrated this lack of interest by minimizing the risks of indoor tanning compared to other risky behaviors (e.g., smoking, drug use, alcohol use, sexual behaviors). The few participants who endorsed current indoor

tanning minimized their risk by highlighting other behaviors as riskier, and identifying the positive benefits of a tanned appearance (9).

Despite the low priority of discussing tanning risk behaviors by dyads, 60% of daughters identified health class as an important venue for learning about skin cancer risk. Daughters often relayed this information to their mothers. Mothers and daughters alike reported changing their indoor and outdoor tanning behaviors as a result of negative life experiences, which included experiencing painful sunburns (18% of mothers, 10% of daughters) and witnessing skin cancer in family and friends (59% of mothers, 27% of daughters). The resulting behavioral changes included greater sun protection and a reduction in indoor tanning use over time, as evidenced by 36% of mothers reporting past but not current use.

Discussion

We examined mother/daughter discussions about indoor tanning and derived four key themes: (1) high rates of prior indoor tanning discussions, (2) a joint mother-daughter tendency to minimize the risk involved in indoor and outdoor tanning versus other health risk behaviors common among adolescents, (3) a tendency among daughters to learn skin cancer risk information at school and communicate this information at home, and (4) changing tanning behaviors as a result of personal experiences, particularly among mothers. Interestingly, themes revealed a gap between level of discussion and level of priority regarding tanning behaviors, indicating appropriately higher concern for more immediately threatening risk behaviors. Results highlight the potential value of educational interventions aiming to increase awareness of indoor tanning risks and improve skin cancer prevention knowledge via health-based curricula, and suggest that another step is needed, namely encouragement of teens to share what was learned with their families to improve knowledge maintenance and promote family engagement in skin cancer risk-reducing behaviors. Collaborative family discussions earlier in adolescence about the long-term risks of indoor tanning and any family history of skin cancer can also promote risk reduction practices. Additionally, future interventions may involve pediatric/adolescent healthcare providers in such discussions, with the goal of avoiding intentional tanning and encouraging skin cancer preventive behaviors in teens.

There are limitations to this study. Participating adolescents received the same health curricula, limiting the generalizability of findings to schools not addressing skin cancer prevention. Interviews occurred during the late spring. Given variable seasonable tanning behavior, we cannot generalize our findings to other seasons. Additionally, we cannot characterize study refusers, although we expect that our sample likely oversampled families with higher rapport and communication. Our sample showed relatively low interest in indoor tanning despite a preference for a tanned appearance, limiting the range of behavioral perspectives. Varied perspectives could be examined in future research by including mother/daughter pairs with more risk-taking behaviors, such as regular indoor tanning. Finally, dyad responses during the interview were likely impacted by the priming effect of introducing the future topic of discussion weeks before the interview itself.

Implications and Contribution

Mother/daughter dyads reported gaining knowledge about tanning risks from a combination of health education and personal and family experiences. Future research can incorporate real-life examples (e.g., vignettes, videos) into health class curricula and other credible venues to reduce risky tanning behaviors and prevent skin cancer in adolescents and mothers alike.

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Table 1

Interview guide

Qualitative Interview	
•	Have you ever discussed <u>indoor tanning</u> before, prior to this interview? If yes, what specifically have you discussed in the past?
•	Please tell me what you've discussed previously about <u>other health or risk behaviors</u> ? (probes to use if participants need additional prompting: tobacco use, exercise, limiting or avoiding use of alcohol or drugs)
•	Have you ever discussed <u>other topics related to skin health</u> before? If yes, what specifically have you discussed in the past?
•	What, if anything, have you discussed in the past about <u>sun protection</u> ?
•	How does each of you <u>respond to the other's health opinions</u> ?
•	Please tell me a little bit about what you know concerning <u>the risks or harms of indoor tanning</u> .
•	<u>How might you prioritize family conversations about indoor tanning</u> , in relation to other things that teenagers might do, or risks they might be exposed to?
•	Is there <u>anything else that you think is relevant to your views or discussions you have had about indoor tanning or skin health</u> that hasn't already come up during our conversation that you would like to share?

Table 2

Primary themes and exemplary quotes

Theme	Quote
1. Indoor Tanning Risk Minimization	<i>Well again... she has no desire to go but if she did, I mean I'd still probably put it behind drinking and drugs which are more immediate and short-term problems and issues. You know, teen sex would be something I would put before talking about that. It wouldn't be high on the list, but it'd be up there, but there are definitely things that I would put before that. (Mother)</i>
2. Health-related School Curricula	
School as Venue for Learning about Risk	<i>I didn't know this before I took health class so now that I know that they are like really, really bad I don't really want to go. (Daughter)</i>
Information Dissemination: Daughter to Mother	<i>Oh, she'll come back and tell me what she's learnt even in her health class. (Mother)</i>
3. Changing Behavior Based on Prior Experience	
Sunburn	<i>Last year I got sun poisoning really bad so I, that was kind of like I learned by experience, I would never want to go tanning again. I used to throw on a bunch of tanning oil and then go tan but after sun poisoning I am like afraid of the sun...I learned by experience. (Daughter)</i>
Family History	<i>My father has been a sun worshipper all his life and he is now getting something taken off of him constantly. My mom did too. So we're pretty aware of those types of things. I will say though we're not, we're not religious sunscreen people. We don't do it near as much as we should. (Mother)</i>
Indoor Tanning	<i>I just don't know why people would do it. I mean, I do understand and it was, it's very relaxing. I would find that more relaxing than getting a massage or something, because it's just you, there's the little hum of the machine... And then you sort of get addicted to it, and it's relaxing and you like the way you look... but, now with everything that they know about it, I just don't understand why people would do it. (Mother)</i>