



A qualitative systematic review of the efficacy of sun protection education in organ transplant recipients

Sean Z. Wu, AB,^a Pengsu Jiang, BS,^a Jessica E. DeCaro, MLIS,^b and
Jeremy S. Bordeaux, MD, MPH^c
Cleveland, Ohio

Background: Transplant recipients are at increased risk of developing skin cancer as a result of chronic immunosuppression. Educating patients on sun protection has been routine posttransplantation, but to our knowledge, no systematic review has yet analyzed the efficacy of such education measures in this high-risk population.

Objective: We sought to examine the efficacy of educating transplant recipients on skin cancer and sun protection.

Methods: A literature search of interventional patient education studies published between January 1995 and March 2016 was performed in PubMed, CINAHL, Cochrane, and EMBASE databases.

Results: Data from 7 studies meeting inclusion criteria were analyzed. No study attempted to examine the direct effect of sun protection education on skin cancer incidence in transplant recipients. Two randomized controlled trials showed that educational intervention can improve sun-protective behavior and decrease skin pigmentation or skin damage in sun-exposed areas. Three other randomized controlled trials compared the efficacy of 2 different forms of patient education at changing sun-protective behavior, but did not examine patient-oriented outcomes.

Limitations: A lack of high-quality randomized controlled trials with patient-oriented evidence and a dependence on self-reported data are limitations.

Conclusion: Sun protection education can be effective at altering patient behavior in transplant recipients, but its effect on posttransplantation skin cancer incidence remains to be elucidated. (J Am Acad Dermatol 2016;75:1238-44.)

Key words: basal cell carcinoma; education medium; patient education; skin cancer prevention; squamous cell carcinoma; sun protection; transplant.

Over 300,000 people in the United States live with a functional organ transplant.¹⁻⁶ Long-term immunosuppression required for allograft rejection prophylaxis puts transplant recipients at an increased risk for malignancy. Skin cancer is the most common malignancy in solid organ transplant recipients (SOTRs), occurring at an incidence

of 10% to 45% at 10 years posttransplantation, and appears to be more aggressive in this population.⁷⁻¹³

Although the specific role of sirolimus as chemoprophylaxis in SOTRs is still under investigation, promoting sun protection remains central to skin cancer prevention in this high-risk

From the Case Western Reserve University School of Medicine^a; Cleveland Health Sciences Library, Case Western Reserve University School of Medicine^b; and Department of Dermatology, University Hospitals Case Medical Center.^c

Funding sources: None.

Conflicts of interest: None declared.

Accepted for publication June 20, 2016.

Reprint requests: Jeremy S. Bordeaux, MD, MPH, Department of Dermatology, University Hospitals Case Medical Center, 11100 Euclid Ave, Lakeside 3500, Cleveland, OH 44106. E-mail: jeremy.bordeaux@uhhospitals.org.

Published online July 27, 2016.

0190-9622/\$36.00

© 2016 by the American Academy of Dermatology, Inc.

<http://dx.doi.org/10.1016/j.jaad.2016.06.031>

population.¹⁴⁻¹⁶ The International Transplant Skin Cancer Collaborative recommends that transplant recipients minimize direct mid-day sun exposure, use sunscreen with sun-protection factor of at least 30, wear protective clothing, and avoid tanning beds.¹⁷ Although patient counseling on sun protection is routine posttransplantation, to our knowledge, there has been no evidence-based analysis of the efficacy of such educational measures in SOTRs.¹⁸ In this study, we systematically analyzed the efficacy of sun protection counseling using an analytic framework adapted from the US Preventative Services Task Force (Fig 1).¹⁹

METHODS

Data search

We searched MEDLINE (PubMed), the Cochrane Library, EBSCO CINAHL, and Ovid EMBASE for articles in English published from 1995 through March 2016. The primary search strategy was developed in PubMed using a combination of exploded Medical Subject Headings terms and key words. Search terms related to (1) health education, (2) transplantation, and (3) skin cancer or sun protection were harvested and compiled within each category with the Boolean “OR” then using the Boolean “AND” to combine the concepts into a complete search string (Supplemental Appendices 1 to 4; available at <http://www.jaad.org>). The search was translated into Cochrane, CINAHL, and EMBASE using database-specific controlled terms and key words in the appropriate search fields.

Study selection

Titles and abstracts were reviewed by 2 independent reviewers. Selected studies must (1) be published as an article in a journal rather than as a conference abstract or poster; (2) present original research, not be a review or guideline; (3) evaluate the efficacy of a specific educational intervention on the risks of skin cancer with sun exposure and/or sun-protective measures; and (4) use a cohort limited to transplant recipients.

Inclusion/exclusion criteria

Selected studies were reviewed in full. A study was included in the final analysis if it quantitatively assessed the before-and-after effect of the educational intervention on at least 1 of the following

patient outcomes: patient knowledge, attitude, sun-protective behavior, intermediate measures of sun exposure, or skin cancer incidence.

Quality assessment and data extraction

The quality of evidence in each included article was assessed using the Strength of Recommendation Taxonomy scale.²⁰ Randomized controlled trials (RCT) were also assessed using the Jadad scale.²¹ Information regarding study design, setting, demographics, interventions, controls, and outcome measures were extracted by 1 primary reviewer and checked by a second reviewer for each included article.

Data synthesis

Because of the heterogeneity of interventions, follow-up periods, and outcome measures, we did not perform a quantitative analysis. Qualitative analysis was performed, stratifying studies by study design.

RESULTS

A title-abstract screen of 326 unique citations from PubMed, Cochrane, CINAHL, and EMBASE databases yielded 9 studies meeting the study selection criteria (Fig 2). Of these, 2 articles were excluded after a full-article review, as each served as a preliminary descriptive study to a larger, more quantitative RCT.^{22,23} The 7 studies that met the inclusion criteria included 5 RCTs and 2 case series with a before-and-after design. Educational strategies examined in these studies included a mobile app, a culturally sensitive workbook, 2 videos, and traditional verbal or written education during an outpatient visit (Table I). Reminders were made in 3 studies and included mailed pamphlets, telephone calls, e-mails, or text messages. Follow-up periods ranged from immediately posteducation to 10 months posteducation.

No study directly demonstrated the efficacy of a sun protection educational intervention in reducing the incidence of skin cancer posttransplantation. Outcome measures included intermediate measures of sun exposure, such as sunburn, sun irritation, observable sun damage on examination, or change in skin color (2 of 7 studies); sun-protective behavior (6 of 7); belief or attitudes (3 of 7); and knowledge (6 of 7)

CAPSULE SUMMARY

- Sun protection education is routine in transplant recipients, but its efficacy has not been reviewed.
- Our review shows that education can be effective at altering sun-protective behavior in transplant recipients.
- We encourage further research to demonstrate whether behavioral counseling can directly decrease posttransplantation skin cancer incidence.

Download English Version:

<https://daneshyari.com/en/article/5648204>

Download Persian Version:

<https://daneshyari.com/article/5648204>

[Daneshyari.com](https://daneshyari.com)