

Postmenopausal Hormone Therapy Is Primarily Associated with Reduced Risk of Colorectal Cancer Arising through the Adenoma-Carcinoma Pathway

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Our goal was to evaluate whether the inverse association of postmenopausal hormone therapy (PMH) and colorectal cancer (CRC) differs by molecularly defined CRC tumor subtypes. **Methods:** We pooled data on tumor markers and PMH use among 8,220 postmenopausal women (3,898 CRC cases and 4,322 controls) from eight observational studies in the Genetics of Epidemiology of Colorectal Cancer Consortium and the Colon Cancer Family Registry. We used multinomial logistic regression to estimate odds ratios (OR) and 95% confidence intervals (CI) for the association of ever versus never PMH use and each tumor subtype compared with controls. We defined subtypes according to microsatellite instability (MSI-high or -low/stable), CpG island methylator phenotype (CIMP positive or negative), oncogenic mutations in BRAF and KRAS, and combinations of these markers that have been linked to specific pathways (adenoma-carcinoma, serrated, alternate). Additionally, we investigated whether associations varied by tumor anatomic location (proximal colon, distal colon, rectum). All models were adjusted for study, age, body mass index, smoking status, and family history of CRC. Wald chi-square tests were used to evaluate whether the association differed by tumor-specific subtypes. **Results:** Ever use of PMH was associated with a 38% reduction in overall CRC risk (OR 0.62, 95% CI 0.56–0.69). In general, this association was observed regardless of individual markers for MSI, CIMP, BRAF, or KRAS status. However, when taken altogether and grouping cases by pathway, the association was attenuated for tumors arising through the serrated pathway compared with the adenoma-carcinoma pathway (OR 0.81, 95% CI 0.65–1.01; *p* for difference 0.046). We also observed a weaker association for tumors of the proximal colon compared with the distal colon and rectum (OR 0.71, 95% CI 0.62–0.80; *p* for difference 0.010). **Conclusions:** In this large consortium analysis, we observed a strong inverse association between PMH use and overall CRC risk. The association may predominantly reflect a benefit of PMH use for tumors arising through the adenoma-carcinoma pathway and tumors of the distal colon and rectum, as the association was weaker for tumors arising through the serrated pathway and proximal colon tumors.

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Do-It-Yourself Sunscreen Tutorials on YouTube

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Sunscreen is a common but complex sun safety product regulated in the US as a non-prescription drug. Recently, contributors on social media such as YouTube and Pinterest have advocated for making your own sunscreen at home. Such online tutorials likely represent misinformation in that they present an untested product as a safe replacement for a regulated drug. **Purpose of the Study:** To describe Do-It-

Yourself sunscreen tutorials on YouTube, to determine whether viewers are making sunscreen, and whether specific misinformation is crowd-corrected in the online environment. This study demonstrates the use of online comments to identify behavioral outcomes of misinformation on social media. **Method:** We searched YouTube (March 2019) using search terms DIY sunscreen and Do-It-yourself sunscreen and selected the top 15 English-language videos sorted by relevance and views (*N* = 30). We double-coded the recipes for inclusion of FDA-approved photofilters, ingredient measurements and product claims (e.g., SPF level). We collected and coded all viewer comments (*N* = 2,477) for valence, presence of comments suggesting use on children is safe, crowd-correction by the online community, and indication of past or planned behavior change. **Results:** Most videos (67%) included SPF claims that were not accompanied by testing. Zinc oxide was the only photofilter used (present in 83%) and 17% of recipes contained no FDA-approved photofilters. Ingredient quantity was imprecise or absent in 23% of recipes. A notable fraction of videos (33%) had all supportive and no critical comments. Many videos (47%) had comments indicating a plan to use the recipe on babies, toddlers or children. Response to comments about use on children did not correct this misinformation. Comments indicated viewers had made or planned to make the recipe in 63% of videos. **Discussion:** Sunscreen is a drug intended to prevent sunburn and cancer, yet recipes for DIY sunscreen mischaracterize resulting product properties, thus misinforming the public. Further, viewers of DIY sunscreen videos frequently post positive comments regarding homemade sunscreen and do not correct false statements regarding their safety for use on infants and children. Making sunscreen, especially for use on children, may lead to skin damage.

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A Retrospective Study of Administrative Data to Identify Factors Associated with Future Disability Status among Older Colorectal Cancer Survivors

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Disability is associated with loss of independence and early mortality. Currently, only 1–2% of cancer survivors who reported physical limitations received rehabilitation services. It is critical to identify factors associated with the development of disability to guide clinical practice given treatment changes. We aimed to 1) identify demographic and cancer-related characteristics associated with future disability status among older colorectal cancer survivors, and 2) compared the future disability status among cancer and matched non-cancer cohorts. **Methods:** We conducted a retrospective cohort study using the Texas Cancer Registry-national Medicare linked database. The cancer cohort included Medicare beneficiaries with a primary colorectal cancer diagnosis between 2005 and 2013 (*n* = 13,229). The non-cancer cohort was identified from a 5% sample of Medicare beneficiaries (*n* = 11,416). Diagnosis dates from the cancer cohort were used as the index date for the non-cancer cohort. Cohorts were matched 1:1 based on index date, age, and gender. Cox regression models were used to estimate hazard ratios (HRs) and 95% confidence