

ABSTRACT

Introduction: Social determinants of health (SDOH), which include economic stability, education access and quality, community and social context, healthcare access and quality, and neighborhood and built environment, are known to be related to variation in health outcomes across a variety of health conditions. Ocular neoplasms are among the health conditions that have been shown to be affected by SDOH, and retinoblastoma is the most prevalent form in children. Our objective was to systematically review documented associations between SDOH and retinoblastoma in the US.

Methods: We followed a pre-established protocol. We searched Medline, Embase, and Web of Science from 2000 to November 2023 using a mix of keywords and controlled vocabulary. We included primary studies of any design that evaluated one or more relationships between SDOH and retinoblastoma outcomes, such as survival, mortality, disease staging, types of care, and incidence. We extracted data on study design, population characteristics, SDOH domains and indicators, and estimates of associations with retinoblastoma outcomes. We assessed risk of bias using a modified Newcastle-Ottawa Scale and performed narrative syntheses.

Results: We included 26 studies that had reported a total of 552 associations. Social and community context, notably race and ethnicity, was the most commonly examined domain, suggesting evidence of worse survival outcomes for Black and Hispanic patients. The most clinically and policy-relevant patterns were concentrated in social and community context, economic stability, and healthcare access and quality SDOH domains, where measures such as race and ethnicity, poverty, unemployment, and insurance status were repeatedly associated with stage at diagnosis, enucleation, and survival.

Conclusion: SDOH were frequently associated with retinoblastoma diagnosis, treatment, and survival in US studies. The most clinically relevant findings relate to insurance-related access barriers, socioeconomic disadvantage, and social and community factors, while environmental and occupational exposures were more informative for disease cause and prevention. Our findings underscore the need for more consistent SDOH measurement and adjustment methods to improve study comparability and to inform targeted interventions to address retinoblastoma health outcomes.