Define the Vulnerable - Social Determinants of Health Impact on Hematological Malignancies Affecting Children, Adolescents, and Young Adults: Systematic Review and Meta-Analysis.

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Background

- Working and living environment influence patients' health which necessitates the evaluation of social determinants of health (SDH) and cancer outcomes. Few studies have analyzed the impact of SDH on survival in patients with hematological malignancies, with even fewer studies in pediatrics, adolescents, and young adults (AYA).

Main aim

To identify and analyze the impact of SDH on hematological malignancies treatment outcomes in children and AYA.

Methods

- Prospective Register of Systematic Reviews (PROSPERO) registration #CRD42022346854
- Six publication databases searched: PubMed, Scopus, Web of Science, Embase, Cochrane, and Google Scholar
- January 2002 to September 2022
- Studies held in the US evaluating any SDH according to survival of children and AYA (defined as patients <40 years-old) with hematologic malignancies

Results

- A total of 19 studies were identified.
- Qualitative analysis (n=19 studies included) / Meta-analysis (n=10).
- Outcome evaluated: Overall survival (OS, n=18) and cancer-specific survival (CSS, n=5).
- Patients with the lowest neighborhood socioeconomic state (nSES) had worse OS (Figure 2).
- Uninsured patients and Medicaid/Low public insurance patients had lower OS compared to the privately insured (Figure 3).
- Other SDH variables could not be analyzed due to heterogeneity and low numbers of studies discussing it (Figure 1).
- Variables related to social and community context domain related to this age groups as school bullying, Domestic violence, and parents with the same sex have not been studied

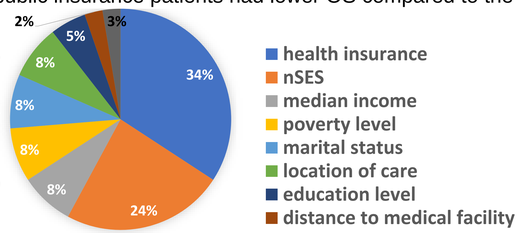


Figure1: pie chart showing percentages of studies discussed for each factor.

Figure 2: Pooled Hazard ratio for nSES association with children and AYAs diagnosed with hematological malignancies OS.

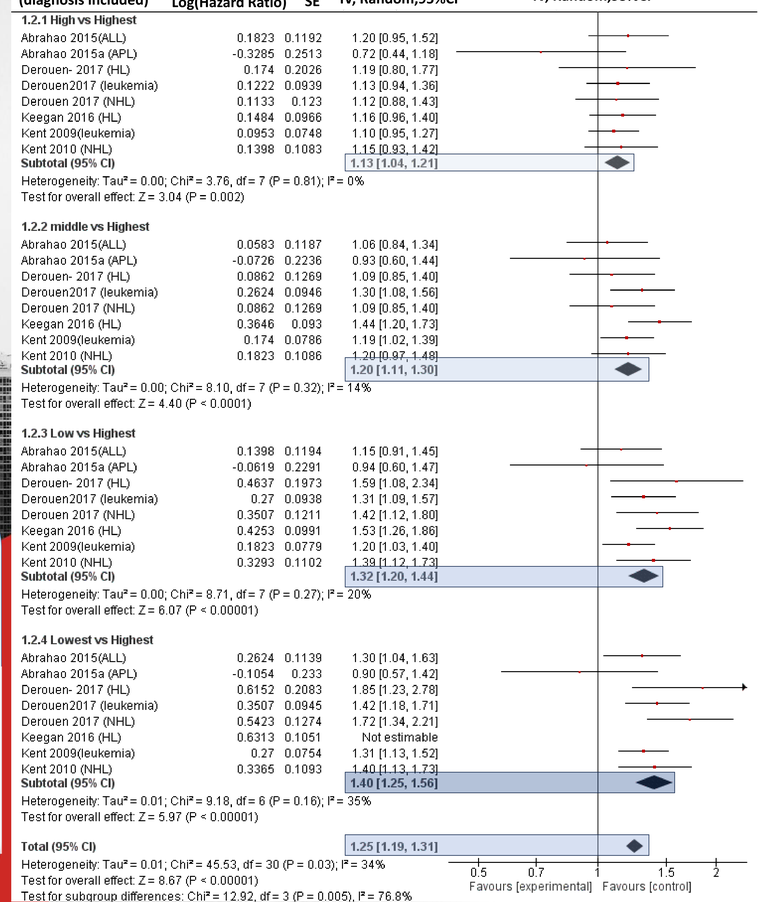
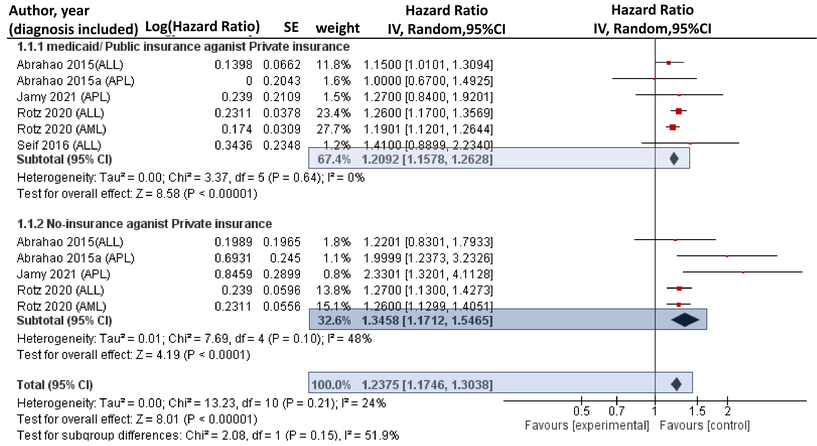


Figure 3: Pooled Hazard ratio for medical care association with children and AYAs diagnosed with hematological malignancies.



Conclusion

- Low nSES, being uninsured or having public insurance may be predictors of worse OS.
- Social and community context, and neighborhood and built environment domain variables need to be extensively studied.
- In pediatric and AYA studies, parents should be included as a part of the analysis.
- Determining vulnerable patients is important to develop public policies to improve their cancer outcomes.
- More research is needed to identify the underlying mechanisms by which these factors affect those patients. This includes assessing SDH in patients prospectively.

CML-062

Presented at SOHO 2023 Annual Meeting, September 6–9, 2023. Houston, Texas, USA.