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Alberta SPOR SUPPORT Unit

Hailey Zwicker - University of Calgary

Project: *Investigating the impact of cerebrovascular injury and sociocultural factors on social function in children and adolescents with sickle cell disease in Canada*

BACKGROUND:

Sickle cell disease (SCD) is a genetic blood disorder impacting oxygen transport in the vasculature and negatively impacting almost every organ in the body. SCD causes pain, depression, cerebrovascular injury (CVI), and unfortunately, early death. Social function may also be compromised. SCD has evolved from its properties against malaria and thus, impacts individuals descending from regions where malaria exists, namely Sub-Saharan Africa; those impacted often face additional sociocultural challenges such as, immigration, poor socioeconomic status (SES), and racism. Disease-related (e.g., CVI), and sociocultural factors may impact social function in children diagnosed with SCD. There is a critical need to understand the source of social function difficulties so that modifiable targets for intervention can be identified.

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AIMS: This study aims to:1) Describe the social function in children diagnosed with SCD compared to peers; and 2) investigate the relationship of sociocultural factors (e.g., immigration status, SES, racism) and disease-related factors (e.g., CVI) with social function. We hypothesize: 1) Poorer social function compared to peers; 2) immigrants to Canada, lower SES, racism and presence of CVI will be associated with poorer social function.

METHODS: Ninety-seven children diagnosed with SCD, 97 healthy children, and their parents, will be recruited from the Alberta or Stollery Children's Hospital. Families consenting to participate will complete questionnaires assessing social function, immigration status, SES, and perceived racism, outcomes prioritized by our patient partners. Additionally, children will undergo diagnostic neuroimaging to look for incidence of CVI as an indicator of disease-related injury. Data will be analyzed using a linear mixed effect-model using social function as the dependent variable and accounting for the paired design (SCD vs. controls).

OUTCOMES: The study will identify factors related to social function in children diagnosed with SCD. Sharing the findings with stakeholders will strengthen knowledge and inspire targets for intervention to improve social health.

Hailey Zwicker (she/her) is a PhD candidate in Medical Science at the University of Calgary. She is member of the Psychosocial Cancer Research for Kids (CARE4Kids) laboratory under the leadership of Dr. Fiona Schulte. Hailey obtained her BScH in Neuroscience, First Class, from Dalhousie University and her MSc in Medical Science from the University of Calgary.

She is passionate about advocating for the advancement of research and healthcare for youth living with sickle cell disease. Hailey's main research interests include pediatric medicine, neuroscience, psychology, and intersectionality in healthcare. Hailey's current graduate work and future career goals aim to expand knowledge and understanding of underrepresented populations in Western medicine and healthcare to aid in the future development of treatments and management strategies. By prioritizing principles of equity, diversity, and inclusion in her work, she hopes to inspire other researchers to conduct culturally competent research and reduce barriers to health research in equity deserving communities.

In her spare time, Hailey enjoys playing field hockey and ringette, volunteering,

and spending time outdoors with her puppy, Winnie.