

Social Determinants of Health and Barriers in Accessing Eye Care for Refugees in the Greater Toronto Area

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Purpose: To evaluate ocular health status, vision-related quality of life, and access to eye care services among a multi-ethnic refugee population in the Greater Toronto Area (GTA).

Methods: Participants completed a structured survey capturing demographic, medical, and vision-related data. Descriptive statistics were employed to summarize and interpret the responses. Canadian population data were sourced from Statistics Canada and National Vision Health Reports. Participants were recruited during ophthalmic screening outreach visits at four refugee housing sites in the GTA, and were eligible if they were adults or mature minors residing in refugee homes after arriving in Canada as refugees or asylum seekers between October 2022 and October 2024. Proportions were converted to estimated counts for comparison, and harmonized categorical variables were analyzed using Pearson's Chi-Square or Fisher's Exact Test. Bivariate and multivariate logistic regression models were then used to assess associations between demographic, clinical, and psychosocial factors and two outcomes: difficulty coping with life due to vision and history of barriers to eye care.

Results: Among 94 refugee participants (mean age 46.5 years; 41% female), rates of recent eye exams (19.1%) and prescription glasses use (51.1%) were significantly lower than in the Canadian population (74.5% and 81.0%, respectively; $p < 0.0001$). Over half (55.3%) were dissatisfied with their vision, and financial barriers (50%) were the most reported obstacle to care. Prior abuse was associated with greater odds of encountering barriers ($OR = 7.65$, $p = 0.005$), while dissatisfaction with vision ($OR = 0.11$, $p = 0.025$) and interference with daily activities ($OR = 233.0$, $p < 0.0001$) strongly predicted difficulty coping.

Conclusion: Refugees face significant vision-related health disparities. Interventions should address access, government benefits, education, and psychosocial supports.

Keywords: refugee health, ocular health disparities, vision care access, social determinants of health

Introduction

Canada has welcomed refugees as part of a growing commitment to humanitarian resettlement.¹ The growing influx of displaced populations in Canada increases the demands of an already strained healthcare system, with challenges such as widespread doctor shortages and extended wait times in emergency departments.^{2–4}

Despite Canada's universal healthcare system, significant disparities persist. Studies have identified barriers to healthcare access faced by refugee populations, including language limitations, cultural and social isolation, limited cultural competency among providers, complex administrative procedures, and transportation challenges.^{5–7} The cumulative effect is reflected in worsened health outcomes.⁸ Other studies have identified cost as a key determinant of poor health outcomes among vulnerable populations.^{9,10} The federal government of Canada provides temporary health care coverage, including vision care, to newly arrived refugees in Canada through the Interim Federal Health Program (IFHP).¹¹ However, these services have been underutilized by refugees possibly due to language and cultural barriers, a lack of knowledge, or socioeconomic obstacles such as transportation.^{12,13}

These limitations in refugee health extend to their ocular health as well. Refugees report lower access to vision services and reduced vision-related quality of life.¹⁴ Pediatric studies in Syrian refugee populations in Canada have identified increased rates of myopia and other uncorrected refractive errors compared to Canadian norms.¹⁵ In the adult population, significantly higher rates of visual impairment primarily related to untreated refractive error have been observed.¹² These studies were conducted primarily in English with an interpreter used as required. As visual impairment affects economic and educational opportunities, social participation, and quality of life, refugees need to receive equitable vision care and eye health services.^{16–18} The intent was to characterize social determinants of eye health and barriers to care rather than to investigate a specific disease process.

Providing quality and equitable eye care should involve exploring the social and cultural determinants impacting refugees seeking and utilizing eye health services. Most studies on ocular health in refugee populations in Canada have been limited to a single demographic and seldom explore how demographic or social determinants shape vision-related outcomes in this population. This study aims to evaluate the overall ocular health status, vision-related quality of life, and access to eye care services among a multi-ethnic refugee population residing in the Greater Toronto Area (GTA) and compares findings directly to national-level Canadian data to statistically quantify disparities in ocular health and access to care. Findings of our study could help inform targeted public health interventions and ultimately improve equity in vision care access for refugees.

Methods

This is a quantitative, prospective cross-sectional survey study of a refugee population residing in the GTA. The study was approved by the William Osler Health System Research Ethics Board (REB#22-0036), in accordance with the Tri-Council Policy Statement on Ethical Conduct for Research Involving Humans and adhered to the tenets of the Declaration of Helsinki. Written informed consent was obtained from all participants before study participation. All surveys were conducted in English, however, in some cases translations were provided through a relative if required.

Participant Recruitment

Participants were recruited from refugee homes operated by the refugee housing facilities organization in the GTA between October 2022 and October 2024. Eligibility criteria included adults and mature minors who had arrived in Canada as refugees or asylum seekers and were currently residing at a refugee home. For this study, the term *refugee* refers to individuals who arrived in Canada under refugee or asylum-seeking status and were residing in designated refugee housing facilities in the GTA. This distinguishes refugees from voluntary immigrants or permanent residents, who were not included in the study sample. Recruitment was conducted during nine scheduled ophthalmic screening outreach visits across four different sites. The number of participants recruited per visit ranged from 3 to 28.

Study Survey

Participants completed a structured survey designed to capture both sociodemographic characteristics and vision-related factors ([Supplementary Figure 1](#)). The survey was developed using validated questions adapted from previous peer-reviewed studies on eye care access and social determinants of health in vulnerable populations, including Syrian refugees and homeless Canadians.^{12,19,20} It was informed by a targeted literature review and structured to capture demographics, access to eye care, vision-related quality of life, knowledge of services, and trauma, resulting in a two-part questionnaire administered before and after the eye exam. While many items were derived from validated instruments, several refugee-specific questions (eg, family size, awareness of the Interim Federal Health Program, and impact of vision on social life) were developed for contextual relevance. The item assessing satisfaction with vision was conceptually aligned with domains from the NEI-VFQ-25.

The survey included information on demographics (age, sex, marital status, education, income, number of children and adults in the household, time in Canada, and country of origin), and medical and ocular history. The survey also included sections which relates to the participant's awareness and access to eye care, impact of participants' vision on their quality of life, knowledge of eye care and common eye health prevention strategies, and trauma or abuse experienced by the participants that could impact their general health and eye care.

Analysis

Descriptive statistics were calculated for survey responses, and clinical characteristics. Our study refugee population and Canadian populations were compared across a range of sociodemographic and health-related categorical variables. Comparisons were conducted using either the Pearson Chi-Square Test of Independence or Fisher's Exact Test, depending on data characteristics. Non-responses (NR), "Prefer not to say" selections, and ambiguous responses were excluded from all statistical comparisons.

Canadian data were reported as proportions and were converted to approximate counts by multiplying proportions by national population estimates. Population scaling was based on Canadian census or quarterly demographic data from the year's most relevant to each variable (eg, 2018, 2020, 2021, or 2024). Canadian data were obtained from the Statistics Canada website, using the most recent data available for each variable. Data was extracted and categorical variables (eg, age, sex, marital status, education, family size, number of children, prescription glasses use) were re-grouped as needed to align with study survey categories for comparison.

Bivariate logistic regression analyses were conducted to assess the relationship between demographic, clinical, and psychosocial variables and the outcomes: "Does your vision make it difficult to cope with the demands of life?" (0 = No, 1 = Yes) and "Have you encountered previous barriers to eye care?" (0 = No, 1 = Yes). Multivariate logistic regression was also performed, including variables showing significance on bivariate analysis. The multivariate logistic regression models adjusted for age, sex, marital status, number of children, satisfaction with vision, perceived risk of vision-related injury, and impact of vision on daily activities for the outcome of difficulty coping, and for age, sex, marital status, years as a refugee, and history of prior abuse for the outcome of barriers to eye care. All statistical analysis was performed using IBM SPSS version 29 (IBM, Armonk, NY). We considered p-values less than 0.05 to be statistically significant.

Results

A total of 94 participants were included in this study. The mean age was 46.5±15.16 years; 41% (39/94) were female, 57% (54/94) were male, and 1% (1/94) were "other". About 54.3% (51/94) reported being a refugee for less than 1 year, 17.1% (16/94) for 1–5 years, and 28.6% (27/94) for more than 5 years. Half of the refugees or 50% (47/94) had attended college or university, 30.9% (29/94) had graduated from high school as their highest level of education, and 18.1% (17/94) did not attain a high school diploma. About half or 57.5% (57/94) had a monthly income of less than \$1000 (CAD). Two-thirds or 66% (62/94) of the refugees were single, followed by married/common law at 21.3% (20/94) and divorced/separated at 10.6% (10/94). The demographic characteristics of participants are summarized in [Table 1](#).

Table 1 Comparison of Sociodemographic Characteristics Between Refugee Participants and the General Canadian Population

Variable	Category	Population counts (%)	Refugee counts (%)	P-value
Age	≤ 19 years	8,579,943 (20.8)	6 (6.4)	<0.0001 ^a
	20 to 29 years	5,786,573 (14.0)	11 (11.7)	0.7613 ^a
	30 - 39 years	6,107,048 (14.8)	12 (12.8)	0.8817 ^a
	40 - 49 years	5,341,831 (12.9)	12 (12.8)	0.8752 ^a
	50 - 59 years	4,940,312 (12.0)	29 (30.9)	<0.0001 ^a
	≥ 60 years	10,532,892 (25.5)	20 (21.3)	0.5460 ^a
	NR	0 (0)	4 (4.3)	
Sex	Male	20,638,255 (50.0)	54 (57.4)	0.1458 ^b
	Female	20,650,344 (50.0)	39 (41.5)	
	Other	0 (0)	1 (1.1)	

(Continued)

Table 1 (Continued).

Variable	Category	Population counts (%)	Refugee counts (%)	P-value
Marital status	Married/common law	18,627,670 (47.8)	20 (21.3)	<0.0001 ^b
	Single	15,457,328 (39.7)	62 (66.0)	
	Divorced/separated	2,887,724 (7.4)	10 (10.6)	
	Widowed	1,957,180 (5.0)	1 (1.1)	
	NR	0 (0)	1 (1.1)	
Education	College or University diploma	16831351 (45.5)	25 (26.6)	<0.0001 ^b
	Some college/university	1109759 (3.0)	22 (23.4)	
	High school (graduated)	9876859 (26.7)	29 (30.9)	
	High school (no graduation)	5992701 (16.2)	17 (18.1)	
	Prefer not to say	0 (0)	1 (1.1)	
Income	Less than \$500	1,627,750 (5.5)	40 (42.6)	<0.0001 ^b
	\$500 - \$1000	2,938,620 (9.9)	14 (14.9)	
	\$1000 - \$1500	2,003,460 (6.7)	11 (11.7)	
	\$1500 - \$2000	2,229,120 (7.5)	10 (10.6)	
	More than \$2000	20,970,840 (70.4)	7 (7.4)	
	Prefer not to say	0 (0)	12 (12.8)	
Family size	One to three	132880 (78.8)	58 (61.7)	0.0026 ^b
	More than 4	35,780 (21.2)	31 (33.0)	
	NR	0 (0)	5 (5.3)	
Children	Without children	79095 (55.5)	40 (42.6)	0.2214 ^b
	With children	63500 (44.5)	43 (45.7)	
	NR	0 (0)	11 (11.7)	
Prescription glasses use	Yes	33241080 (81.0)	48 (51.1)	<0.0001 ^b
	No	7797290 (19.0)	46 (48.9)	
Satisfied with the vision?	Yes	33447851 (98.3)	42 (44.7)	<0.0001 ^b
	No	564049 (1.7)	52 (55.3)	
Time of last eye exam?	Visited the eye clinic in the last 12 months	109297804 (74.5)	18 (19.1)	<0.0001 ^b
	Did not visit the eye clinic in the last 12 months	37410658 (25.5)	76 (80.9)	

Notes: ^a Fisher's Exact Test. ^b Chi-square test. Bolded p-values indicate clinical significance ($p < 0.05$).

Medical Information

Mental health condition was the most common reported medical history at 12.8% (12/94), followed by diabetes at 4.3% (4/94). About 39.4% (37/94) had a previously diagnosed eye condition, the most common being refractive error at 23.4% (22/94), cataracts at 7.4% (7/94), and dry eyes at 2.1% (2/94). Half of the participants or 51% (48/94) reported using corrective glasses, 10.6% (10/94) were taking eye drops (prescription and nonprescription), and 14.9% (14/94) had

a history of a previous ocular procedure. These procedures included 4 with cataract surgery (28.6%, 4/14), 3 with laser surgery (21.4%, 3/14), and 1 with strabismus surgery (7.1%, 1/14). About a third of participants, or 37.2% (35/94) reported being a victim of previous abuse, with 33.0% (31/94) having experienced previous head trauma. Refugee questionnaire counts can be found in [Supplementary Table 1](#).

Visual Health Information

Subjective description of non-satisfaction with vision was reported in 44.7% (42/94) of participants. Only 19.1% (18/94) had visited the eye clinic in the last 12 months and only a minority at 9.6% (9/94) were aware that they had access to free eye examinations and prescription glasses under the IFHP.

With regards to the impacts of vision on their life, 43.6% (41/94) reported that their vision makes it at least slightly difficult to cope, 35.1% (33/94) reported that poor vision impact everyday activities, and 33.0% (31/94) reported that vision impacts their social life. Most refugees believed that preventative eye care can reduce vision issues at 83.0% (78/94). About 39.4% (37/94) of participants reported that they are satisfied with the eye care system in Canada, and 64.9% (61/94) reported that the free eye clinic allowed them to get access to eye services they did not have access to before. Of the participants unsatisfied with the Canadian vision care system, 25.0% (16/64) felt that better financial support would help enhance the Canadian vision care system the most. About 19.1% (18/94) reported barriers to eye care, with the most common reasons being financial issues at 50% (9/18), lack of education at 17% (3/18), and distance issues at 11.1% (2/18).

Comparison To The General Canadian Population

When compared to the general Canadian population, there were significantly less proportion of refugee participants 19 years or younger at 6.4% vs 20.8% ($p=0.0004$), and higher proportion aged 50–59 years old at 30.9% vs 12.0% ($p<0.0001$). A larger proportion of refugees were single at 66.0% vs 39.7%, and fewer were married at 21.3% vs 47.8%, ($p<0.0001$). The refugee population had a lower proportion of participants with college and university diplomas (26.6% vs 45.5%, $p<0.0001$), a lower proportion earning more than \$2000 (7.4% vs 70.4%, $p<0.0001$) and a larger proportion earning less than \$500 (42.6% vs 5.5%, $p<0.0001$). Canadian families tend to be smaller with a larger proportion consisting of only 1–3 members (61.7% vs 78.8%), while our refugee sample had a larger proportion of families with greater than 4 members (33.0% vs 21.2%), $p=0.0026$. There was a larger proportion of the Canadian population who use glasses compared to the refugee population (81.0% vs 51.1%, $p<0.0001$), a larger proportion had visited the eye clinic in the last year (74.5% vs 19.1%, $p<0.0001$), and a larger proportion were satisfied with their vision (98.3% vs 44.7%, $p<0.0001$).

Logistic Regression Results

Participants who were divorced/separated had higher odds of reporting difficulty coping compared to those who were single ($OR=17.993$, $p=0.0079$). Those with 1–3 children were also significantly more likely to report difficulty coping than participants with no children ($OR=3.209$, $p=0.0144$). Comparisons involving larger numbers of children (4–6 or more than 6) were not statistically significant. Having had a recent eye exam did not differ significantly in reported coping challenges ($p>0.05$). Participants who reported being satisfied with their vision were less likely to report difficulty coping ($OR=0.171$, $p=0.0002$). Likewise, those who believed their vision posed a risk of injury ($p=0.0002$) and those who believe their vision impact their ability to carry out daily activities ($p<0.0001$) had significantly higher odds of difficulty coping. No significant associations were found for age, sex, length of time in Canada, length of time as a refugee, overall family size, educational level, or monthly income. [Table 2](#) highlights the bivariate logistic regression results for factors associated with difficulty coping.

On multivariate logistic regression, satisfaction with one's vision remained a statistically significant predictor of decreased likelihood of coping difficulty ($OR=0.110$, $p=0.025$). Individuals who reported that their vision interfered with daily tasks were significantly more likely to experience difficulty coping ($p<0.0001$). In contrast, perceived risk of vision-related injury, marital status, and number of children were not significant predictors in the multivariate model. [Table 3](#) highlights the multivariate logistic regression results for factors associated with difficulty coping.

Table 2 Bivariate Logistic Regression Results Assessing the Association Between Demographic, Socioeconomic, and Clinical Variables with the Likelihood of Reporting Difficulty Coping with the Demands of Life Due to Vision (Yes Vs No)

Variable	Category	Reference	OR (exp(coef))	95% CI Lower	95% CI Upper	P-value
Age			1.012	0.984	1.041	0.4005
Sex	Female vs Male	Male	1.879	0.819	4.310	0.1368
Marital Status	Married/common law vs Single	Single	2.199	0.807	6.001	0.1237
	Divorced vs Single	Single	17.993	2.136	151.714	0.0079
Years as a Refugee	1-5 vs <1	<1	1.111	0.303	4.071	0.8736
	>5 vs <1	<1	0.909	0.307	2.697	0.8636
Years in Canada	1-5 vs <1	<1	1.399	0.279	7.015	0.6824
	>5 vs <1	<1	1.097	0.316	3.815	0.8839
Education Level	College/university vs high school	Highschool	1.091	0.482	2.465	0.8353
Monthly Income	\$500-\$1000 vs <\$500	<\$500	0.829	0.243	2.826	0.7644
	\$1000-\$1500 vs <\$500	<\$500	0.414	0.096	1.793	0.2386
	\$1500-\$2000 vs <\$500	<\$500	1.659	0.405	6.787	0.482
	\$>2000 vs <\$500	<\$500	1.474	0.291	7.448	0.6391
Family Size	4-6 vs 1-3	1-3	1.320	0.494	3.532	0.5803
	>6 vs 1-3	1-3	0.660	0.150	2.901	0.5822
Number of Adults	4-6 vs 1-3	1-3	1.334	0.418	4.255	0.627
	>6 vs 1-3	1-3	0.533	0.097	2.959	0.4723
Number of Children	1-3 vs none	None	3.209	1.261	8.166	0.0144
	4-6 vs none	None	1.166	0.096	14.126	0.9036
	>6 vs none	None	1.166	0.096	14.126	0.9036
Diagnosed with Eye Condition	Yes vs No	No	2.018	0.869	4.679	0.1022
Currently Use Prescription/Contacts	Yes vs No	No	1.011	0.448	2.286	0.9788
Past Use of Prescription/Contacts	Yes vs No	No	2.000	0.844	4.740	0.1155
Using Eye Drops	Yes vs No	No	2.100	0.551	7.996	0.2769
Previous Eye Surgery	Yes vs No	No	1.353	0.434	4.221	0.6025
Satisfied with Vision	Yes vs No	No	0.171	0.068	0.430	0.0002
Last eye Exam?	>2 years vs within 2 years	Within 2 years	0.942	0.398	2.228	0.8915
	Never vs within 2 years	Within 2 years	0.475	0.081	2.787	0.4096
Aware of the Interim Health Program	Yes vs No	No	0.337	0.066	1.718	0.1905
Vision makes it likely to get injured	Yes vs No	No	11.811	3.152	44.212	0.0002
Vision makes it difficult to fulfill roles	Yes vs No	No	All who answered yes reported difficulty coping			
Vision impacts the ability to participate in activities	Yes vs No	No	184.934	22.354	1528.436	<0.0001
Vision affects social life	Yes vs No	No	All who answered yes reported difficulty coping			

(Continued)

Table 2 (Continued).

Variable	Category	Reference	OR (exp(coef))	95% CI Lower	95% CI Upper	P-value
Previous Victim of Abuse	Yes vs No	No	0.952	0.409	2.214	0.9089
Ever experienced eye injury due to trauma	Yes vs No	No	1.976	0.578	6.753	0.2772
Experienced previous barriers to Eye care	Yes vs No	No	1.043	0.370	2.933	0.9373

Note: Bolded p-values indicate clinical significance ($p < 0.05$).

Table 3 Multivariate Logistic Regression with Adjusted Odds Ratio (OR) Results Assessing the Association Between Demographic, Socioeconomic, and Clinical Variables with the Likelihood of Reporting Difficulty Coping with the Demands of Life Due to Vision (Yes Vs No)

Variable	Category	Reference	OR (exp(coef))	95% CI Lower	95% CI Upper	P-value
Age			0.998	0.941	1.058	0.9356
Sex	Female vs Male	Male	2.477	0.329	18.671	0.379
Marital Status	Married/common law vs Single	Single	2.959	0.372	23.336	0.303
	Divorced vs Single	Single	0.647	0.011	37.675	0.834
Number of Children	1-3 vs none	None	1.045	0.170	6.430	0.962
	4-6 vs none	None	0.560	0.002	146.496	0.838
	>6 vs none	None	13.763	0.556	341.040	0.109
Satisfied with Vision	Yes vs No	No	0.110	0.016	0.759	0.025
Vision makes it likely to get injured	Yes vs No	No	6.488	0.721	58.381	0.095
Vision impacts the ability to participate in activities	Yes vs No	No	232.991	17.532	3099.512	<0.0001

Note: Bolded p-values indicate clinical significance ($p < 0.05$).

With regards to factors associated with experiencing barriers to eye care, bivariate and multivariate analyses indicated that those who were a previous victim of abuse were more likely to encounter barriers to eye care (OR=6.379, $p=0.0015$, OR=7.65, $p=0.005$, respectively). In contrast, age, sex, marital status, and time as a refugee were not significant predictors. [Tables 4](#) and [5](#) highlight the bivariate and multivariate logistic regression results for factors associated with barriers to eye care.

Table 4 Bivariate Logistic Regression Results Assessing the Association Between Demographic, Socioeconomic, and Clinical Variables and Having Encountered Previous Barriers to Eye Care (Yes Vs No)

Variable	Category	Reference	OR (exp(coef))	95% CI Lower	95% CI Upper	P-value
Age			0.968	0.935	1.001	0.0603
Sex	Female vs Male	Male	1.100	0.391	3.099	0.8568

(Continued)

Table 4 (Continued).

Variable	Category	Reference	OR (exp(coef))	95% CI Lower	95% CI Upper	P-value
Marital Status	Married/common law vs Single	Single	0.135	0.017	1.088	0.0599
	Divorced vs Single	Single	None who are divorced reported barriers			
Years as a Refugee	1-5 vs <1	<1	4.380	0.870	20.739	0.0737
	>5 vs <1	<1	1.499	0.301	7.478	0.6208
Years in Canada	1-5 vs <1	<1	3.666	0.323	41.596	0.2944
	>5 vs <1	<1	2.699	0.319	22.828	0.3622
Education Level	College/university vs high school	Highschool	1.0	0.358	2.795	1.0
Monthly Income	\$500-\$1000 vs <\$500	<\$500	1.545	0.330	7.236	0.5805
	\$1000-\$1500 vs <\$500	<\$500	2.125	0.435	10.371	0.3514
	\$1500-\$2000 vs <\$500	<\$500	0.629	0.067	5.918	0.6857
	\$>2000 vs <\$500	<\$500	0.945	0.096	9.309	0.9609
Family Size	4-6 vs 1-3	1-3	0.770	0.221	2.675	0.68
	>6 vs 1-3	1-3	None with >6 reported barriers			
Number of Adults	4-6 vs 1-3	1-3	0.883	0.171	4.563	0.8823
	>6 vs 1-3	1-3	None with >6 reported barriers			
Number of Children	1-3 vs none	None	1.866	0.552	6.315	0.3157
	4-6 vs none	None	None with 4-6 children reported barriers			
	>6 vs none	None	None with >6 children reported barriers			
Diagnosed with Eye Condition	Yes vs No	No	2.268	0.800	6.430	0.1232
Currently Use Prescription/Contacts	Yes vs No	No	0.948	0.340	2.651	0.92
Past Use of Prescription/Contacts	Yes vs No	No	1.305	0.442	3.850	0.6305
Using Eye Drops	Yes vs No	No	1.063	0.206	5.490	0.9423
Previous Eye Surgery	Yes vs No	No	1.885	0.516	6.883	0.3371
Satisfied with Vision	Yes vs No	No	0.988	0.351	2.779	0.9821
Aware of the Interim Health Program	Yes vs No	No	0.500	0.058	4.276	0.5266
Vision makes it likely to get injured	Yes vs No	No	1.071	0.310	3.706	0.9132
Vision makes it difficult to fulfill roles	Yes vs No	No	2.034	0.656	6.303	0.2188
Vision impacts the ability to participate in activities	Yes vs No	No	1.632	0.573	4.641	0.3586
Vision affects social life	Yes vs No	No	1.232	0.234	6.501	0.8056
Previous Victim of Abuse	Yes vs No	No	6.379	2.032	20.045	0.0015
Ever experienced eye injury due to trauma	Yes vs No	No	1.489	0.360	6.172	0.5831

Note: Bolded p-values indicate clinical significance ($p < 0.05$).

Table 5 Multivariate Logistic Regression with Adjusted Odds Ratio (OR) Results Assessing the Association Between Demographic, Socioeconomic, and Clinical Variables and Having Encountered Previous Barriers to Eye Care (Yes Vs No)

Variable	Category	Reference	OR (exp(coef))	95% CI Lower	95% CI Upper	P-value
Age			0.990	0.947	1.035	0.655
Sex	Female vs Male	Male	0.586	0.147	2.326	0.447
Marital Status	Married/common law vs Single	Single	0.172	0.019	1.539	0.115
	Divorced vs Single	Single	None of those who are divorced reported barriers			
Years as a Refugee	1-5 vs <1	<1	1.664	0.296	9.337	0.563
	>5 vs <1	<1	1.611	0.285	9.125	0.590
Previous Victim of Abuse	Yes vs No	No	7.645	1.866	31.312	0.005

Note: Bolded p-values indicate clinical significance ($p < 0.05$).

Discussion

This study assesses access to eye care, vision-related quality of life, and barriers among refugees residing in the GTA. It builds on previous Canadian studies, examining how social determinants influence coping and access to care. It also offers comparison between refugee ocular health and national-level Canadian population data, providing a more comprehensive and generalizable analysis of disparities.

Our refugee population comprised a higher proportion of middle-aged adults, a higher divorce rates, lower education, and lower income on average, all while sustaining a larger household. Higher divorce rates may stem from adjustment challenges and the emotional toll of displacement.^{21,22} The lower education attainment and income levels may be attributed to systemic barriers such as interrupted education before migration, non-recognition of foreign credentials, limited language proficiency, and financial hardship upon resettlement.^{23,24} Despite results indicating a similar proportion of children between groups, the percentage of smaller families was significantly greater in the Canadian population. This could be because refugees are more likely to live with relatives and extended families.²⁵

Almost half of the refugees (44.7%) in this study reported being satisfied with their vision, which is significantly less than the Canadian population (98.3%). These findings are consistent with other studies that observed vision health in refugee populations. One of these studies shows that adult Syrian refugees in Canada are 19.04 times more likely to report uncorrected vision problems.¹² Another study finds that in refugee camps in Malawi, uncorrected refractive error is the most common cause of visual impairment, affecting 60% of the study population compared to 40% globally.²⁶ While further research is needed to clarify broader trends, these studies highlight potential concerns regarding visual impairment in displaced populations.

Part of the dissatisfaction with vision could be explained by how vision impacts one's ability to cope with the demands of life. Our study found that individuals who were divorced were more likely to report that vision made it difficult to cope. This could be because divorced individuals may have less social support to help compensate for their visual impacts. Studies have found that divorced individuals have lower self-reported health.²⁷ Furthermore, our study found that patients who experienced trauma were more likely to face barriers to eye care. This may reflect how trauma erodes trust in others, including healthcare providers, a dynamic that has been frequently cited as a barrier to care.^{28,29} These findings underscore the need to integrate mental health support into refugee health programs to promote access to services, including vision care.

Our study also highlights significant gaps in ocular healthcare within this population. A large majority of refugees (80.9%) had not undergone an eye exam in the past 12 months, in stark contrast to the Canadian population, where 74.5% reported having had an eye exam within the last year.³⁰ Approximately one-fifth of refugees (19.1%) reported experiencing barriers to eye care. The most frequently cited obstacle was financial constraint (50%), followed by lack of education (17%).

Furthermore, most refugees were unaware of the IFHP. This suggests a lack of awareness about available health coverage and benefits further contributing to financial barriers. This disparity in eye care aligns with findings from previous studies, reinforcing the urgent need for improved screening, treatment, and follow-up within this population.^{31,32}

This study has several limitations. It is a survey study and based on self-reported data, which introduces potential recall and social desirability bias. The sample was geographically limited to refugee homes in the GTA, reducing generalizability. Participants were also selected and recruited from free eye care clinics, likely over-representing individuals with vision concerns and underrepresenting those facing barriers to clinic access. To reduce bias, investigators revisited shelters to expand participation and minimize exclusion. Despite these limitations, this study has key strengths. It is among the few prospective studies that examined refugee ocular health in Canada and assessed factors impacting vision-related quality of life and barriers to care. Future research should involve larger, multi-site studies and incorporate qualitative methods to explore lived experiences. Community-informed interventions are needed to improve awareness of programs like IFHP and enhance access to care.

Conclusion

In conclusion, this study reveals significant disparities in ocular health among refugees residing in the GTA. Compared to the general Canadian population, refugees reported lower access to eye exams, greater dissatisfaction with vision, and higher rates of functional impairment. Barriers such as financial constraints, lack of awareness, and prior trauma were prominent contributors to unmet eye care needs. This study was limited by its sample size, single geographic setting, and reliance on self-reported survey data, which may introduce recall or selection bias. Despite these limitations, the findings underscore the need for targeted, culturally informed interventions that address systemic barriers and improve navigation of available services. Strengthening vision screening and education around health benefits within refugee health programs will be essential to promoting equitable eye care access and improving quality of life in this underserved population.

Highlights

- Refugees in the GTA report significantly lower access to eye exams compared to the general Canadian population.
- Dissatisfaction with vision and interference with daily tasks are associated with difficulty coping with life demands.
- There is low awareness of the Interim Federal Health Program, which could limit access to eye care.
- Trauma history is strongly associated with barriers to accessing vision care services in refugee populations.

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Disclosure

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