

Socioeconomic impact of non-infectious inflammatory eye diseases in Mexico

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Context

Inflammatory eye diseases are a group of conditions characterized by intraocular inflammation. These are conditions that are little-known, poorly understood, and undervalued. However, they have a global impact and relevance since they cause significant visual loss in people of economically productive age. They cause 10-15% of world blindness, occupy the 3rd place of preventable blindness, and 25-50% can be the first manifestation of an autoimmune disease.^{1,2,3}

Because of this, non-infectious inflammatory eye diseases require systemic treatment, including corticosteroids, immunosuppressants, biologics, and long-term follow-up due to their chronic nature and corresponding socioeconomic implications.

These impacts are multifaceted, affecting employment and productivity, financial strain, education, quality of life, and family dynamics.

The aim of this study was to determine demographic data, symptoms, time to diagnosis, type of treatment, socioeconomic level, behavior, attitudes, feelings towards the disease, and unmet needs.

Results

Disease affects mostly women (76%) of productive age. Autoimmune diseases are associated in 25%. The socioeconomic level is divided between 3 groups, being lower in males. (Table 1) Patients come from the central and southeastern parts of the country. (Figure 1) Medical and surgical treatment are varied. (Table 2)

It impacts daily life (44%), patients cannot lead a normal life, and have negative feelings toward disease. (Table 3)

	Total n=100	Fem n=76	Male n=24
Gender			
Age	49.87 ± 16.63	51.75 ± 16.06	43.91 ± 17.32
Time with uveitis diagnosis (yr)	2.7 ± 11.08	2.66 ± 1.078	2.88 ± 1.11
# doctors visited before diagnosis	2.08 ± 1.87	2.26 ± 2.14	2.58 ± 4.2
Emergency consultation last year	1.25 ± .59	0.46 ± 0.71	0.09 ± 0.30
Comorbidities			
Systemic autoimmune disease	25 25%	19 25%	6 25%
Rheumatoid arthritis	9 9%	8 11%	1 4%
ANCA associated vasculitis	8 8%	7 9%	1 4%
Ankylosing spondylitis	5 5%	2 3%	3 13%
Sjögren Syndrome	2 2%	2 3%	0 0%
Systemic hypertension	23 23%	16 21%	7 29%
Diabetes mellitus	18 18%	15 20%	3 13%
Thyroid disease**	7 7%	6 8%	1 4%
Socioeconomic level			
AB/C+* ^	32 32%	28 37%	4 17%
C/C-	31 31%	23 30%	8 33%
D+/D/E "	37 37%	25 33%	12 50%
Current employment status			
Unemployed	3 3%	2 3%	1 4%
Formal employment	30 30%	21 28%	9 38%
Informal employment ^^	15 15%	8 11%	7 29%
Homemaker "	31 31%	30 39%	1 4%
Retired	7 7%	6 8%	1 4%
Pensioner	7 7%	6 8%	1 4%
Student	5 5%	3 4%	2 8%
Day laborer	2 2%	0 0%	2 8%
Education			
No studies	2 2%	2 3%	0 0%
Primary in/complete	4/8 12%	2/7 12%	2/1 13%
Middle school in/complete	4/16 20%	3/13 21%	1/3 17%
Technical/commercial	8 8%	7 9%	1 4%
High school in/complete	5/16 21%	4/9 17%	1/7 33%
Beachelor degree in/complete	8/23 31%	4/19 30%	4/4 33%
Master	6 6%	6 8%	0 0%

Significances groups & previous article *p<.02 **p<.0006 ^p<.05 " p<.01 ^^p<.04 ^p<.001

	Total n=100	Fem n=76	Male n=24
Antiinflammatory treatment			
Oral steroids (prednisone, deflazacort)	38 38%	30 39%	8 11%
Immunosuppressor (AZT, MTX, MMF, HCQ, SSZ)	58 58%	44 58%	14 18%
Biologic therapy (adalimumab, rituximab)	2 2%	1 1%	1 1%
Oral non steroidal antiinflammatory	9 9%	7 9%	2 3%
Surgeries			
Surgery	57 57%	45 59%	12 50%
Number surgeries since diagnosis *	2.23 ± 2.40	1.92 ± 1.62	3.36 ± 4.10
Number surgeries last year **	1.22 ± 0.42	1.18 ± 0.40	1.5 ± 0.70
Cataract	26 26%	22 29%	4 17%
Vitrectomy	4 4%	4 5%	0 0%
Ahmed valve implant	8 8%	6 8%	2 8%
Topical treatment			
Artificial tears	74 74%	64 84%	10 42%
Steroids	29 29%	22 29%	7 29%
Hypotensive	25 25%	22 29%	3 13%
Other: cyclosporine, cycloplejic	22 22%	17 22%	5 21%

AZT:azathioprine, HCQ:hidroxicloroquina, MMF:mofetil mycophenolate, MTX:methotrexate, SSZ:sulfasalazine *p<.01 **p<.006

Patients have access to social security (63%), but uveitis is treated mostly in the private sector, spending more than \$110USD monthly (79%) in

	Total n=100	Fem n=76	Male n=24
Life Affected by Uveitis			
Uveitis affects my life every day	44 44%	38 50.0%	6 25%
Uveitis affects my life some days	30 30%	21 37.5%	9 20%
Uveitis does not affect my daily life	26 26%	17 30.4%	9 20%
Lead a nearly normal life, just changed some thing:	29 29%	25 44.6%	4 9%
Aspects of life affected by uveitis			
Emotional/Psychological problems	56 56%	47 83.9%	9 20%
Work-related problems**	39 39%	26 46.4%	13 30%
Mobility	27 27%	21 37.5%	6 14%
Limiting myself to using a computer	27 27%	23 41.1%	4 9%
Autonomy/Disability	22 22%	14 25.0%	4 9%
Memory loss	12 12%	10 17.9%	2 5%
Social relationships	10 10%	9 16.1%	1 2%
School-related	9 9%	6 10.7%	3 7%
Discrimination/What others think	5 5%	4 7.1%	1 2%
Feelings and emotions secondary to uveitis			
Sadness	39 39%	33 58.9%	6 14%
Anguish	27 27%	19 33.9%	8 18%
Anger***	22 22%	20 35.7%	1 2%
Fear	9 9%	5 8.9%	4 9%
Confusion	8 8%	7 12.5%	1 2%
Stress	8 8%	6 10.7%	2 5%

Significances between groups *p<.03 **p<.0005 p<.02

Conclusions

Compared to our previous study,⁴ females remain the most affected, but there is a trend to toward seeing higher socioeconomic levels of patients, and patients are arriving earlier. Therefore, they are receiving more immunomodulatory treatment, somehow less biologic treatment, and having more surgeries.

It is important to note that even though patients have social security, it is not used to manage their uveitis. Consequently, patients are attending our hospital and paying for their treatment. This may be due to change in government administration and the COVID-19 pandemic, as our hospital did not stop seeing patients.

It is crucial to consider the effect on patients lives, so a change in health policies is needed to help in all spheres of the patient's illness and life. This would facilitate early diagnosis, provide appropriate treatment, according to national guidelines, prevent progression, and thus reduce visual loss, ultimately influencing the economic burden of the country.

Methods

One hundred interviews were conducted to adult patients with non-infectious inflammatory eye diseases at Inflammatory Eye Disease Clinic, Asociación Para Evitar la Ceguera en México, I.A.P. in 2024.

The following data was obtained: demographic characteristics, symptoms, time to diagnosis, number of doctor visited, number of emergency consultation, type and number treatment received (immunomodulatory and surgical), socioeconomic level, social security affiliation, expenses and concepts that generating expenses; and impact on life and accompanying emotional journey (behavior, attitudes, feelings towards the disease, and unmet needs).

Patients were randomly invited and if accepted, a validated questionnaire with closed questions was used. The interviews were performed in a comfortable environment and confidentiality was maintained.

Data were collected, archived and compared to a previous study performed in 2018.⁴

medication, laboratory, imaging and transportation, missing days to work both the patient and a family member. (Table 4)

	Total n=100	Fem n=76	Male n=24
Social security			
Total	63 63%	48 63%	15 63%
IMSS	36 36%	27 36%	9 38%
ISSSTE	21 21%	18 24%	3 13%
IMSS-Bienestar	3 3%	2 3%	2 8%
National Institutes	3 3%	2 3%	1 4%
Institution were uveitis is managed			
Public and private* sectors, but mostly public	4 4%	0 0%	4 17%
Public and private sectors, but mostly private*	9 9%	9 12%	0 0%
Exclusively private* sector (*APEC)	87 87%	67 88%	20 83%
Money spent per month on items related to treatment			
Less \$110 USD	24 24%	14 18%	10 42%
\$110-220 USD	39 39%	33 43%	6 25%
> \$220 USD	37 37%	29 38%	8 33%
Concepts that generate the most expenses			
Medication	78 78%	61 80%	17 71%
Laboratory and imaging studies	34 34%	24 32%	10 42%
Transportation	33 33%	25 33%	8 33%
Medical consultations	19 19%	10 13%	9 38%
Surgical procedures	6 6%	4 5%	2 8%
Accommodation/Lodging	3 3%	2 3%	1 4%
Visits to the emergency room	1 1%	1 1%	0 0%
Missed work days due to attending appointments 4 ± 1.92			
Days hospitalized in a year 1.10 ± 5.8			
Attends appointments alone 25 25% 17 22% 8 33%			

APEC. Asociación Para Evitar la Ceguera. IMSS. Instituto Mexicano del Seguro Social ISSSTE Instituto de Seguridad y Servicios Sociales Para los Trabajadores del Estado

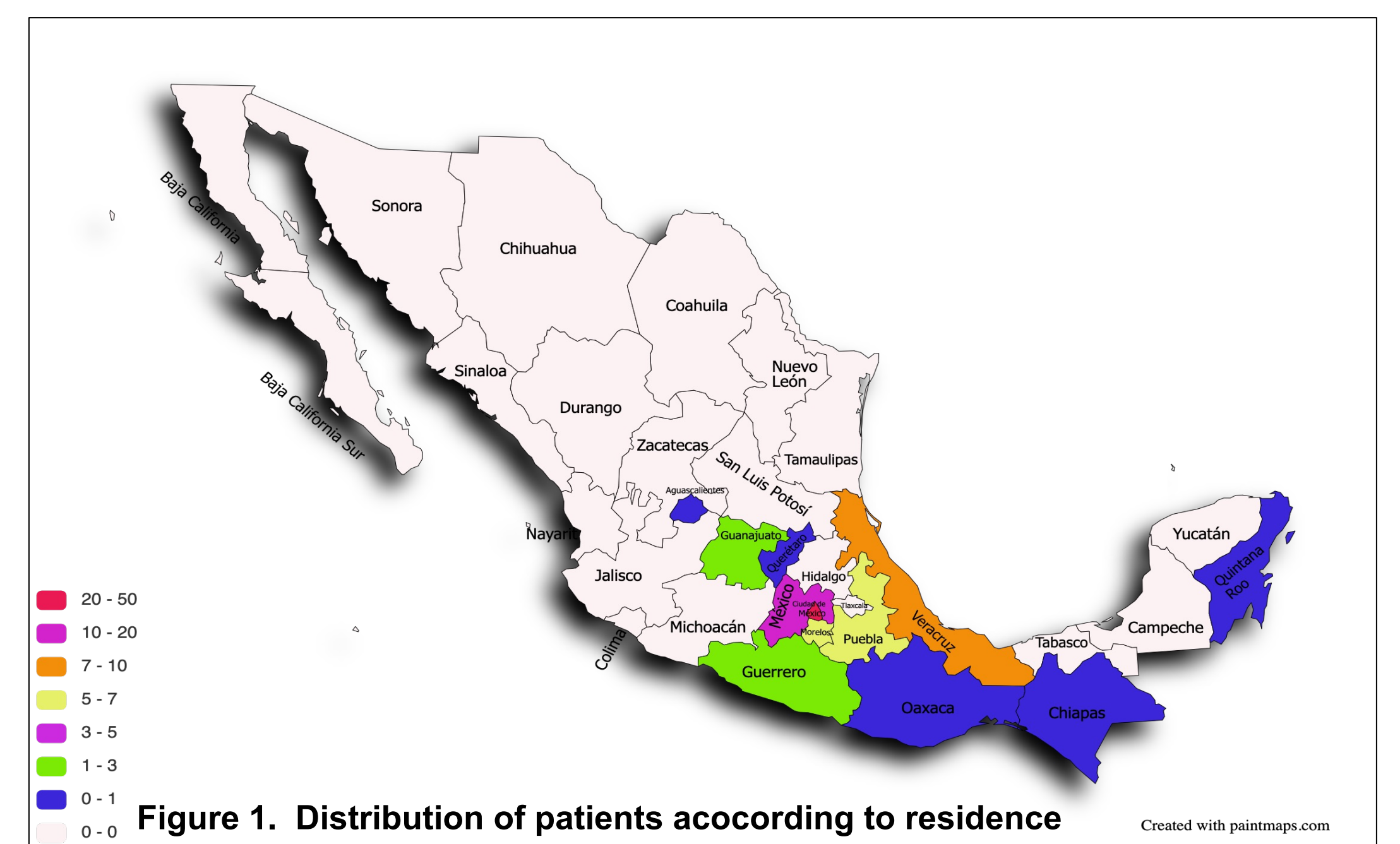


Figure 1. Distribution of patients according to residence

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Disclosure

The authors have nothing to disclosure.

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