

**VISION-RELATED QUALITY OF LIFE OF MYOPIC CHILDREN USING
COMBINATION TREATMENT: Atropine eyedrops and Defocus
Incorporated Multiple Segments (DIMS) spectacle lenses**

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3 - 5 November 2024
Valencia

CONFLICTS OF INTEREST

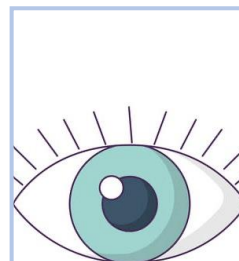
Financial disclosure: Outside consultant to HOYA Corporation

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Vision-Related Quality of life (VR-QoL)



Quality of life (QoL) is a broad concept that is affected in a complex way by physical health, psychological state and social well-being, among others.



Vision-related quality of life (VR-QoL) plays a relevant role in myopic patients.

Rose K, et al . *Quality of life in myopia*. *Br J Ophthalmol*. 2020

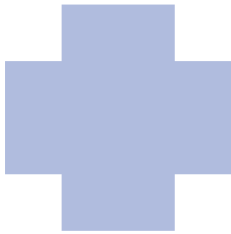
Santodomingo-Rubido, J. et al. *Myopia control with orthokeratology contact lenses in Spain: a comparison of vision-related quality-of-life measures between orthokeratology contact lenses and single-vision spectacles*. *Eye Contact Lens* (2013).

Lipson MJ, Boland B, McAlinden C. *Vision-related quality of life with myopia management: A review*. *Cont Lens Anterior Eye*. 2022

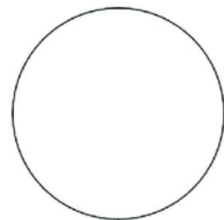
Purpose: To assess **vision-related quality of life (VR-QoL)** in children undergoing myopia control treatment with atropine compared to children treated with combination treatment of atropine and Defocus Incorporated Multiple Segments (DIMS) spectacle lenses

Group A

ATROPINE
EYEDROPS
0.025%

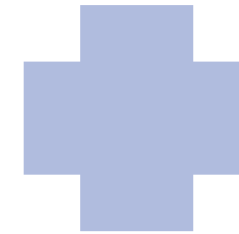


Single
vision
lenses

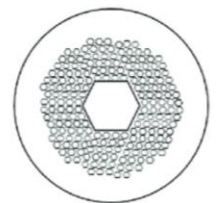


Group B

ATROPINE
EYEDROPS
0.025%



DIMS
lenses



METHODS



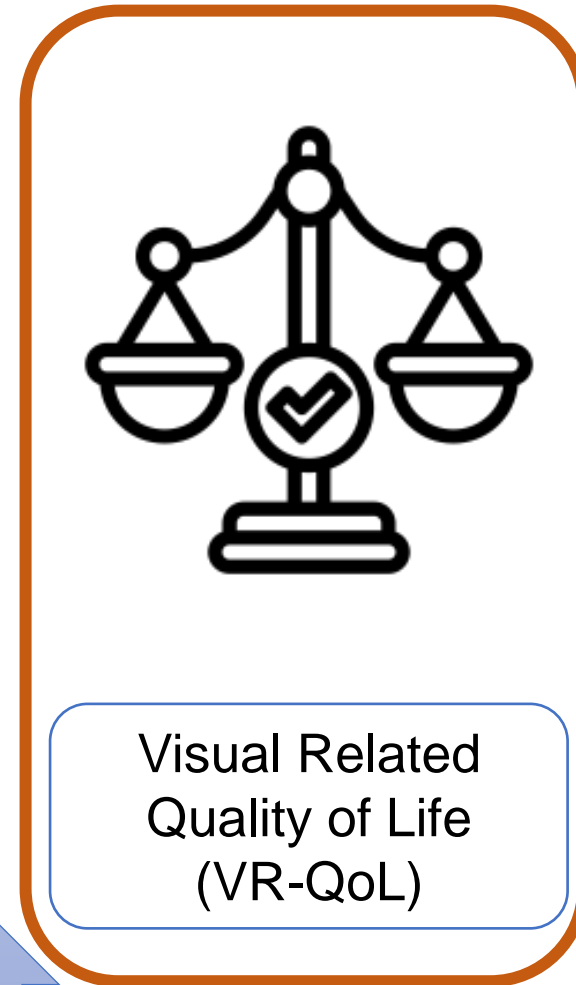
Cycloplegic Spherical
Equivalent Refraction
(SER)



Axial Length
(Biometry)



Choroidal Thickness
Optical Coherence
Tomography (OCT)



Visual Related
Quality of Life
(VR-QoL)

Primary Outcomes

Secondary Outcomes

INTERVENTIONS

1

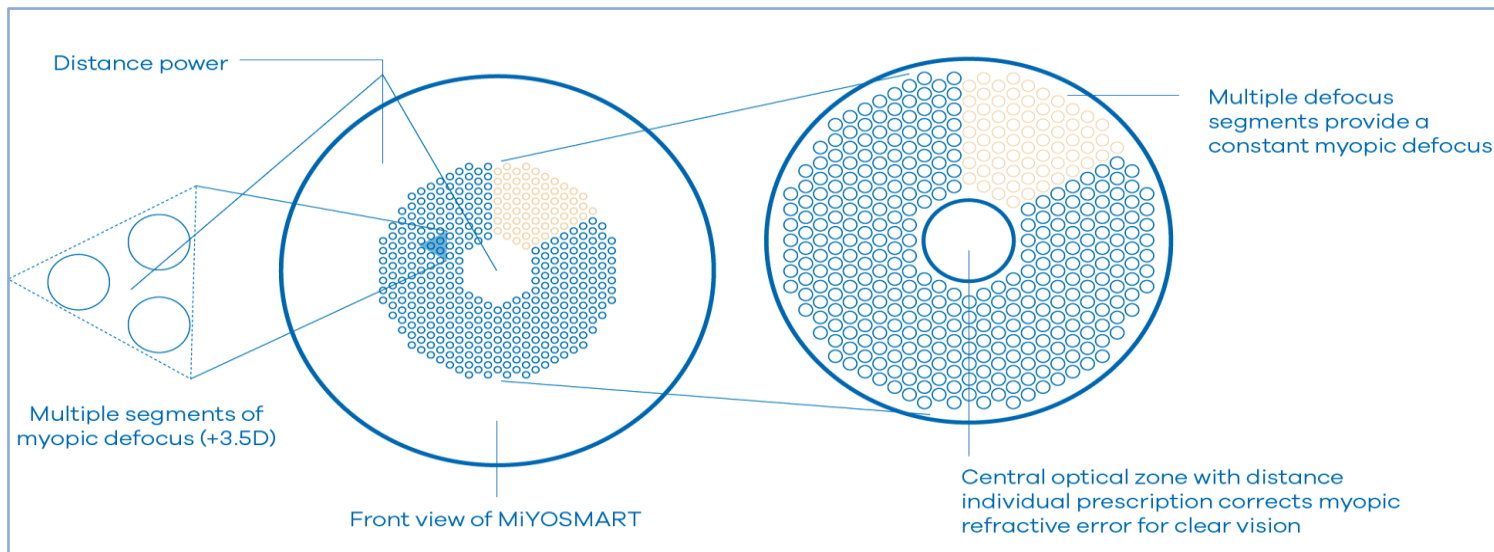
Atropine 0.025%

Atropine sulfate at 0.025% concentration

- ❖ Compounded Atropine → *not commercially available in Europe.*

2

Defocus-Incorporated Multiple Segments (DIMS) spectacle lenses



VR-QoL

1. Test “Pediatric Eye Questionnaire”: PedEyeQ



Two versions: Test 5-11 years and Test 12-17 years.

1. Child: 40 questions

- Functional vision; Bothered by eyes or vision; Social; Frustration or worry

2. Parent's perception of the child: 39 issues

- Functional vision; Bothered by eyes or vision; Social; Frustration or worry; Eye care

3. Parents concerning themselves: 35 issues

- Impact on parents and family; Concern about child's eye condition; Concern about self-perception; Child's interactions



Three possible responses



Child 5-11 years
Functional Vision


If you normally wear glasses or contact lenses, answer as if you ARE wearing them.
Thinking about the last month...

1) Do your eyes make it hard to learn?	Never 2	Sometimes 1	All the time 0
2) Do you have a hard time seeing?	Never 2	Sometimes 1	All the time 0
3) Do you have to do things differently than other people because of your eyes?	Never 2	Sometimes 1	All the time 0
4) Do your eyes make it hard to concentrate?	Never 2	Sometimes 1	All the time 0
5) Do your eyes make it hard to do certain things?	Never 2	Sometimes 1	All the time 0
6) Do you have trouble reading close-up?	Never 2	Sometimes 1	All the time 0
7) Do you have to do certain things to help you see better?	Never 2	Sometimes 1	All the time 0
8) Is it hard to see the board at school?	Never 2	Sometimes 1	All the time 0
9) Do you run into things because of your eyes?	Never 2	Sometimes 1	All the time 0
10) Do your eyes get tired easily?	Never 2	Sometimes 1	All the time 0

VR-QoL was assessed before initiating and after 6 months of treatment.

VR-QoL

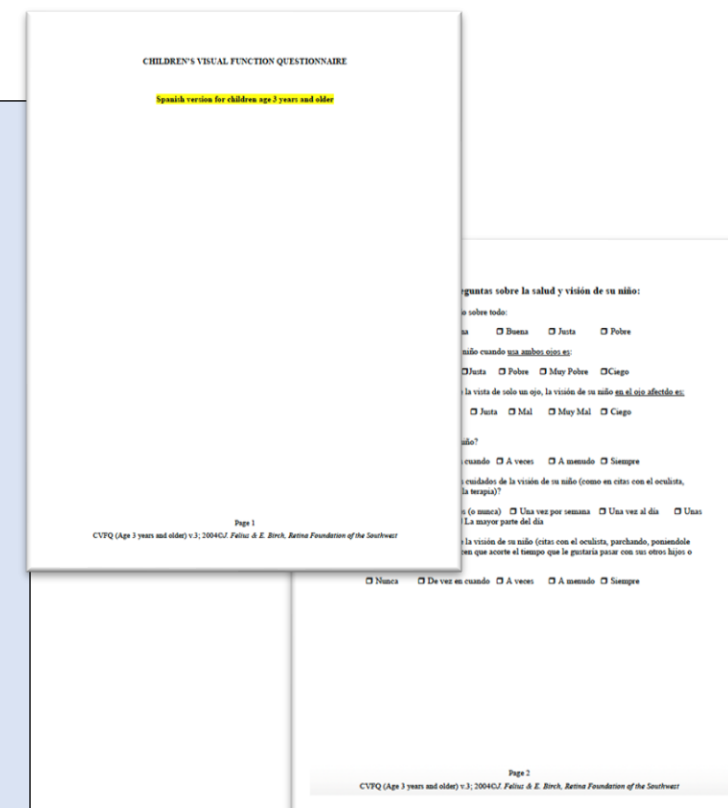
2. Test CVFQ (Children's Visual Function Questionnaire)

- 
1. Health overview: 1 questions
 2. Overview: 2 questions
 3. Competences: 15 questions
 4. Personality: 9 questions
 5. Family impact: 7 questions
 6. Treatment: 5 questions



Completely answered by parents

All questions (except question 3) have 6 answer choices



CHILDREN'S VISUAL FUNCTION QUESTIONNAIRE

Spanish version for children age 3 years and older

Preguntas sobre la salud y visión de su niño:

¿Cómo es la visión de su niño sobre todo:

buena Buena Justa Pobre

¿Cuándo ocurre cuando su niño tiene problemas de la visión?

Justa Pobre Muy Pobre Ciego

¿La vista de solo un ojo, la visión de su niño en el ojo afectado es:

Justa Mal Muy Mal Ciego

¿Cuándo ocurre cuando su niño tiene problemas de la visión?

cuando A veces A menudo Siempre

¿Cuántas veces de la visión de su niño (como en citas con el oculista, la terapia)?

(o nunca) Una vez por semana Una vez al día Usar la mayor parte del día

¿La visión de su niño (citas con el oculista, parchando, poniéndole lentes que acorte el tiempo que le gustaría pasar con sus otros hijos o actividades)?

Nunca De vez en cuando A veces A menudo Siempre

Page 1
CVFQ (Age 3 years and older) v3, 2004CJ, Felius J. E. Birch, Retina Foundation of the Southwest

Page 2
CVFQ (Age 3 years and older) v3, 2004CJ, Felius J. E. Birch, Retina Foundation of the Southwest

RESULTS:

Demographic Data

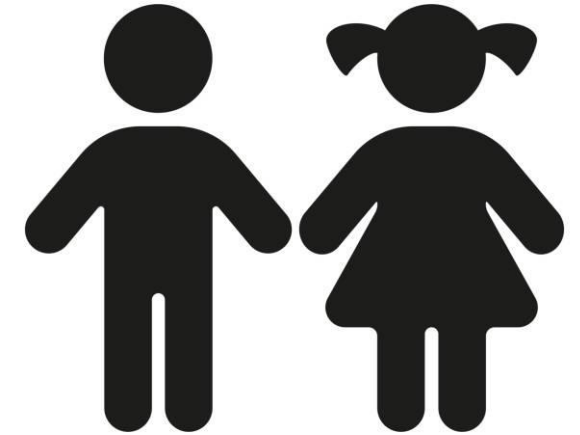
- 95 patients were included

Group A

- **n=50 (52.63%)**
- Mean Age 8.94 ±2.50years

Group B

- **n=45 (47.36%)**
- Mean Age 9.51±2.46 years

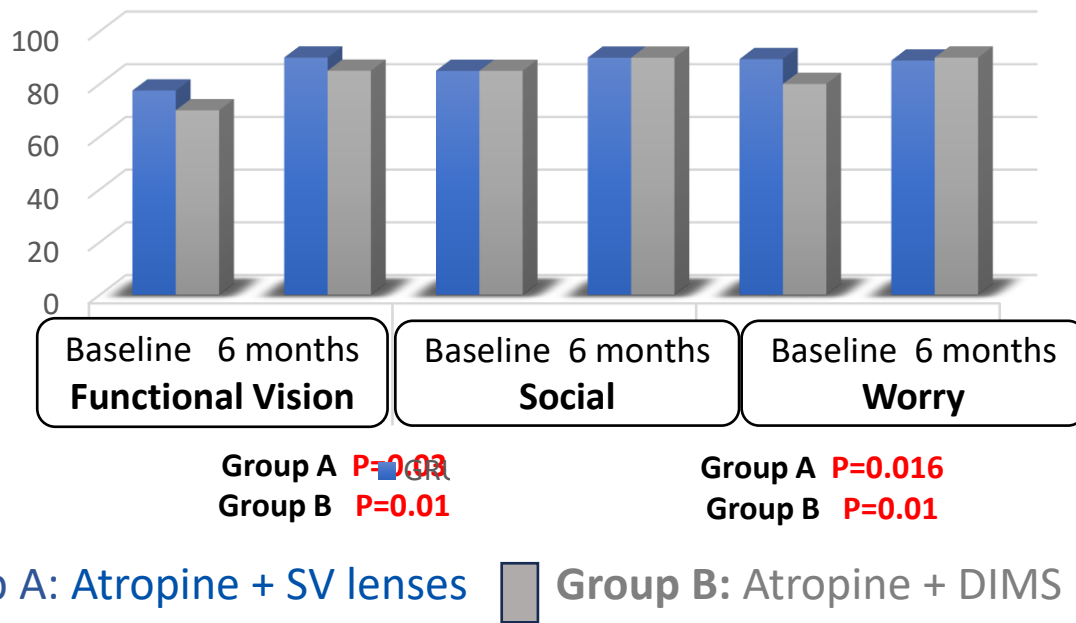


All p>0.05

RESULTS: PedEyeQ

CHILD

PedEyeQ Child

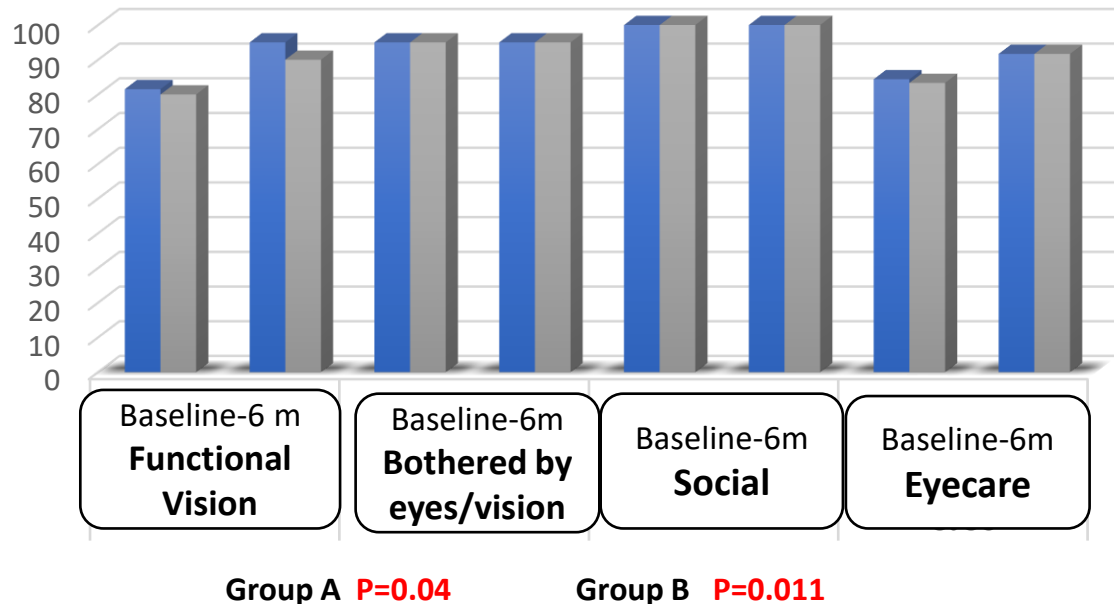


PedEyeQ Test_Child		
Items	Group	p
Functional Vision	GA	0.03
	GB	0.01
Social	GA	0.016
	GB	0.01
Worry	GA	0.684
	GB	0.113

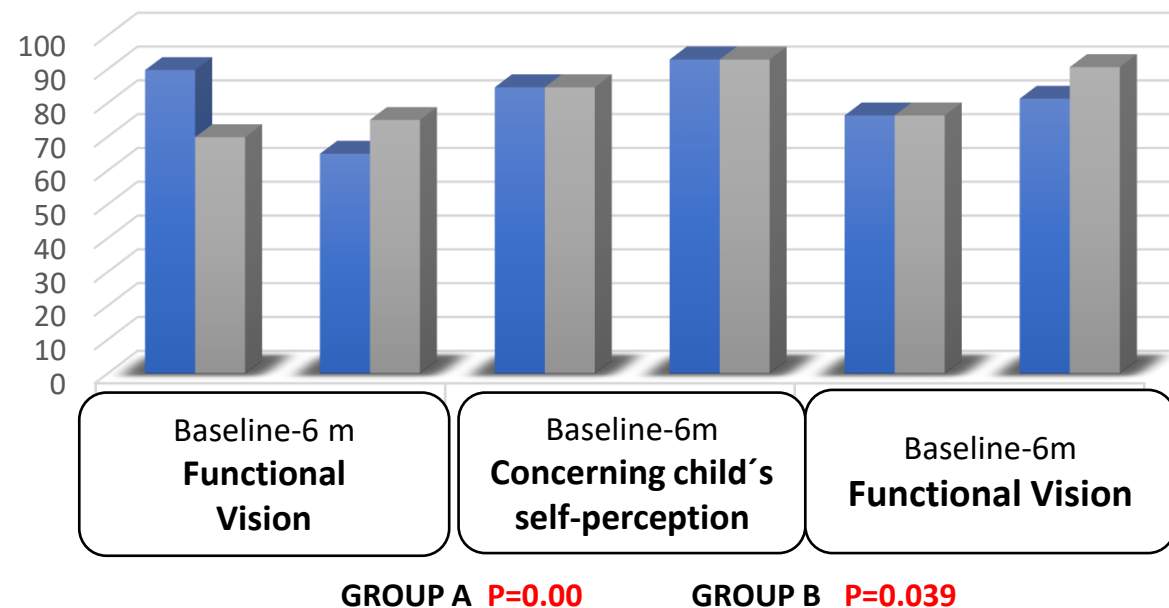
- No significant differences were found in the overall VR-QoL between both groups with PedEyeQ
- Functional Vision and Social item scores (PedEyeQ) significantly improved at the 6M follow-up in group A (p=0.03 and p=0.016, respectively) and group B (all p=0.01)

RESULTS: PedEyeQ

PedEyeQ_Caregiver/ Proxy



Test PedEyeQ_Parents

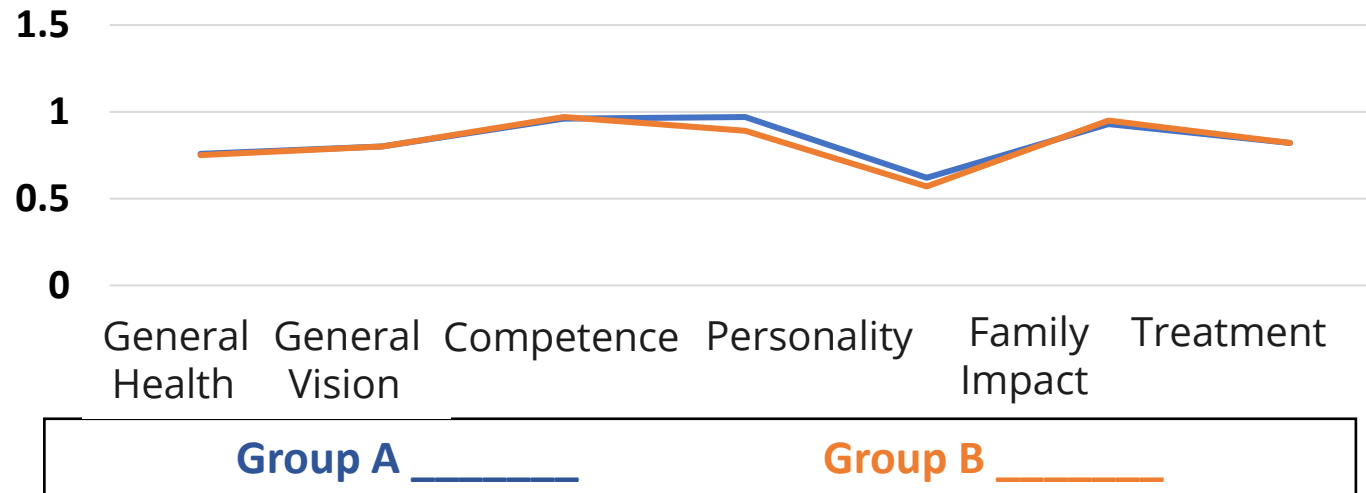


■ Group A: Atropine + SV lenses

■ Group B: Atropine + DIMS lenses

For the CVFQ, only Group B showed an improvement in General Vision (p=0.049) and Competence (p=0.031) scores.

Test CVFQ



1

Vision-related quality of life is an essential aspect when considering different interventions for myopia management.

2

Myopic children treated with 0.025% atropine and SV lenses and those using **combination treatment (atropine and DIMS lenses)** do not seem to have significant differences in overall VR-QoL following 6 months of treatment.

3

General Vision (CVFQ), Competence (CVFQ) and Eye Condition (PedEyeQ) scores improve significantly for children on combination treatment.

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THANKS
MUCHAS GRACIAS

