

Supplementary Online Content

He X, Wang J, Zhu Z, et al. Effect of repeated low-level red light on myopia prevention among children in China with premyopia: a randomized clinical trial. *JAMA Netw Open*. 2023;6(4):e239612. doi:10.1001/jamanetworkopen.2023.9612

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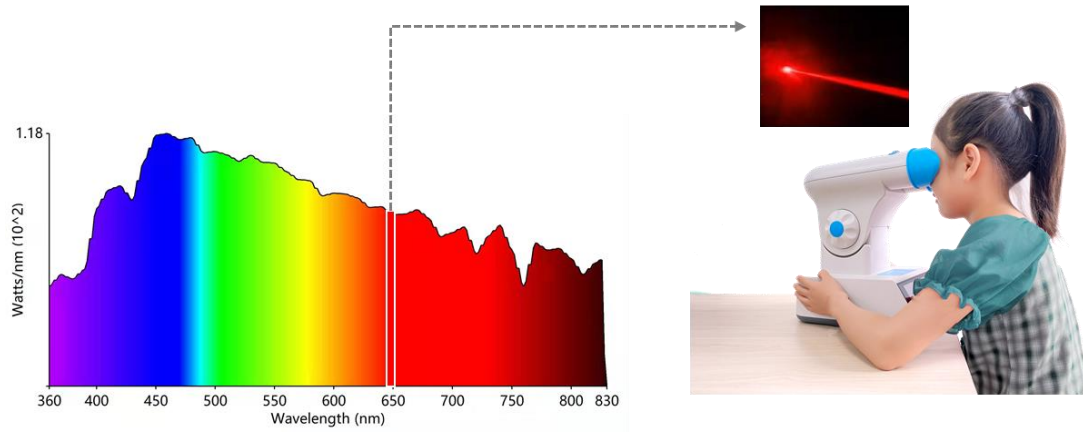
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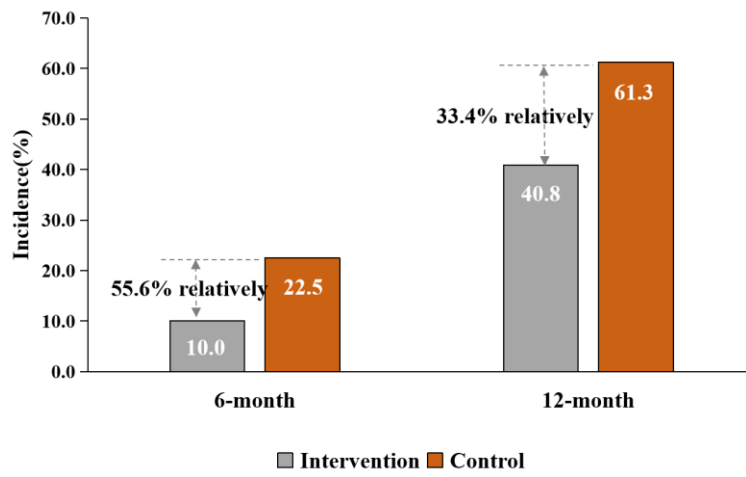
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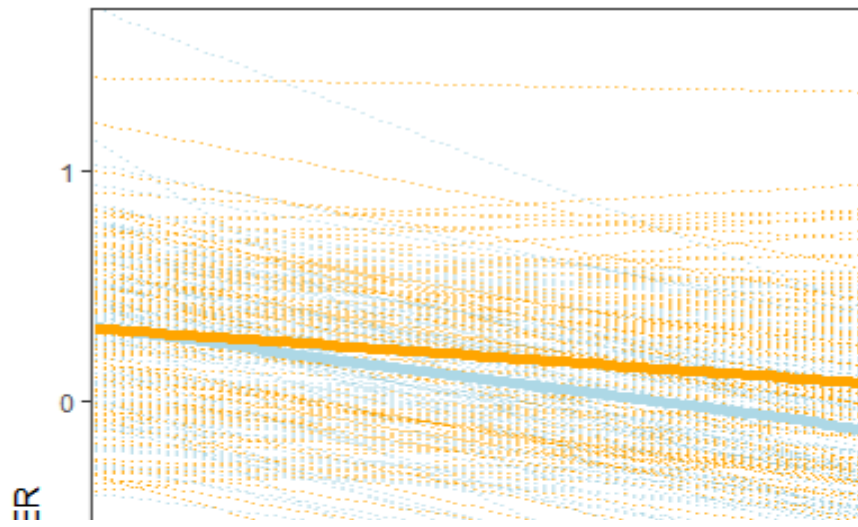
This supplementary material has been provided by the authors to give readers additional information about their work.



eFigure 1. Schematic Diagram of Red Light Spectrum and Intervention Instrument



eFigure 2. Myopia Incidence in 6- and 12-Month Between the Intervention and Control Groups



eFigure 3. Spaghetti Plots of Longitudinal Data on SER

eTable 1. Baseline Characteristics of the Included Participants

Characteristics	Intervention (N=139)	Control (N=139)
Age, mean (SD), yrs	8.28 (1.10)	8.31 (1.07)
Gender (boys)		
boys	51.1% (71/139)	48.9% (68/139)
girls	48.9% (68/139)	51.1% (71/139)
UCVA		
Mean (SD)	0.8 (0.2)	0.8 (0.2)
Median (P25-P75)	0.8 (0.8,1.0)	0.8 (0.8,1.0)
AL, mm		
Mean (SD)	23.36 (0.68)	23.30 (0.69)
Median (P25-P75)	23.37 (22.97,23.82)	23.25 (22.80,23.71)
SER, D		
Mean (SD)	0.14 (0.30)	0.16 (0.28)
Median (P25-P75)	0.25 (-0.13,0.38)	0.25 (-0.13,0.38)

Abbreviations: UCVA, uncorrected visual acuity; AL, axial length; SER, spherical equivalent refraction; SD, standard deviation.

eTable 2. Refractive and Biometric Outcomes at 6-Month Follow-up

	Intervention	Control	Absolute efficacy (Relative efficacy)	P value
Incidence	10.0% (12/120)	22.5% (23/102)	12.5% (55.6%)	0.018*
Change, mean (SD)				
SER (D)	0.18 (0.35)	-0.14 (0.46)	-0.32 (228.6%)	<0.001*
AL (mm)	0.07 (0.13)	0.23 (0.16)	0.16 (69.6%)	<0.001*

SER, spherical equivalent refraction; AL, axial length; SD, standard deviation

Absolute efficacy = value in control group - value in intervention group

Relative efficacy = (value in control group - value in intervention group)/value in control group

* t-test for change of AL and SE; chi-square test for incidence.

eTable 3. Percentages of SER Regression in 6 and 12 Months

	Intervention	Control	P value
6M			
>=0.25D	51.2% (62/121)	24.5% (25/102)	<0.001*
>=0.50D	22.3% (27/121)	6.9% (7/102)	0.003*
>=0.75D	6.6% (8/121)	2.9% (3/102)	0.342
12M			
>=0.25D	19.0% (23/121)	2.7% (3/111)	0.001*
>=0.50D	5.0% (6/121)	1.8% (2/111)	0.284
>=0.75D	0.8% (1/121)	0.0% (0/111)	1.000

* chi-square test for proportion between the two groups

eTable 4. Baseline Characteristics Between Continued and Interrupted Intervention Groups

Characteristics	Continued intervention (N=32)	Interrupted intervention (N=107)	Control (N=139)
Age, mean (SD)	8.27 (1.10)	8.29 (1.11)	8.31 (1.07)
Gender			
Boys	14 (43.8%)	57 (53.3%)	48.9% (68/139)
Girls	18 (56.2%)	50 (46.7%)	51.1% (71/139)
UCVA			
Mean (SD)	0.8 (0.1)	0.8 (0.2)	0.8 (0.2)
Medium (P25-P75)	0.8(0.8,1.0)	0.8(0.8,1.0)	0.8 (0.8,1.0)
AL			
Mean (SD)	23.28 (0.62)	23.39 (0.70)	23.30 (0.69)
Medium (P25-P75)	23.27(23.02, 23.61)	23.40(22.95,23.87)	23.25 (22.80,23.71)
SER			
Mean (SD)	0.13 (0.31)	0.14 (0.30)	0.16 (0.28)
Medium (P25-P75)	0.25(-0.16,0.38)	0.25(-0.13,0.38)	0.25 (-0.13,0.38)

UCVA, uncorrected visual acuity; AL, axial length; SER, spherical equivalent refraction; SD, standard deviation.

Comparison between either two of the three groups showed no significance.

eTable 5. Refractive and Biometric Outcomes at 12-Month Follow-up Between Continued Intervention and Control Group

Variables	Continued intervention (N=32)	Control (N=139)	Risk difference (95% CI)	Relative risk (95% CI)	Relative efficacy	P value ^a
Incidence of myopia, %	28.1% (9/32)	61.3% (68/111)	33.2% (15.2%, 51.2%)	0.46 (0.26, 0.81)	54.1%	0.002
Change, mean (SD)						
SER, D	-0.18 (0.61)	-0.76 (0.60)	-0.58 (-0.82, -0.34)	-	76.3%	<0.001
AL, mm	0.24 (0.23)	0.47 (0.25)	0.23 (0.14, 0.32)	-	48.9%	<0.001

Abbreviations: SER, spherical equivalent refraction; AL, axial length, SD, standard deviation; CI, confidence interval

Risk difference = Absolute efficacy = value in control group - value in intervention group

Relative risk = value in intervention group / value in control group

Relative efficacy = (value in control group - value in intervention group)/value in control group

^a t-test for change of AL and SE; chi-square test for incidence.

eTable 6. Refractive and Biometric Outcomes at 12-Month Follow-up in Different Baseline Age Groups

Variables	N	Intervention	Control	Absolute efficacy (Relative efficacy)	Difference of efficacy (95%CI)
Incidence of myopia, %					
baseline 6-8 yrs	109	49.2% (29/59)	66.0% (33/50)	16.9% (25.5%)	
baseline 8-11 yrs	122	32.8% (20/61)	57.4% (35/61)	24.6% (42.9%)	-7.7% (-32.8%, 17.3%)
SER change (D)					
baseline 6-8 yrs	109	-0.46 (0.53)	-0.89 (0.68)	-0.43 (48.3%)	
baseline 8-11 yrs	122	-0.24 (0.53)	-0.65 (0.52)	-0.41 (63.1%)	0.02 (-0.28, 0.31)
AL change (mm)					
baseline 6-8 yrs	115	0.35 (0.22)	0.59 (0.27)	0.24 (40.7%)	
baseline 8-11 yrs	133	0.25 (0.32)	0.39 (0.19)	0.14 (35.9%)	0.10 (-0.03, 0.23)

SER, spherical equivalent refraction; AL, axial length, SD, standard deviation

Absolute efficacy = value in control group - value in intervention group

Relative efficacy = (value in control group - value in intervention group)/value in control group