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## ORIGINAL ARTICLE

### A survey of the criteria for prescribing in cases of borderline refractive errors



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#### KEYWORDS

Refractive errors;  
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prescribing;  
Optical prescription;  
Prescribing criteria;  
Symptoms

#### Abstract

**Purpose:** This research investigated the reported optometric prescribing criteria of Israeli optometrists.

**Methods:** An online questionnaire based on previous studies was distributed via email and social networking sites to optometrists in Israel. The questionnaire surveyed the level of refractive error at which respondents would prescribe for different types of refractive error at various ages with and without symptoms.

**Results:** 124 responses were obtained, yielding a response rate of approximately 12–22%, 92% of whom had trained in Israel. For all refractive errors, the presence of symptoms strongly influenced prescribing criteria. For example, for 10–20 year old patients the degree of hyperopia for which 50% of practitioners would prescribe is +0.75 D in the presence of symptoms but twice this value (+1.50 D) in the absence of symptoms. As might be expected, optometrists prescribed at lower degrees of hyperopia for older compared with younger patients. There was a trend for more experienced practitioners to be less likely to prescribe for lower degrees of myopia and presbyopia. Practitioner gender, country of training, the type of practice environment, and financial incentives were not strongly related to prescribing criteria.

**Conclusions:** The prescribing criteria found in this study are broadly comparable with those in previous studies and with published prescribing guidelines. Subtle indications suggest that optometrists may become more conservative in their prescribing criteria with experience.

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## PALABRAS CLAVE

Errores refractivos; Prescripción optométrica; Prescripción óptica; Criterio de prescripción; Síntomas

## Encuesta sobre criterios de prescripción en casos de errores refractivos límite

### Resumen

**Objetivo:** Este estudio investigó los criterios de prescripción optométrica reportados por los optometristas israelíes.

**Métodos:** Se distribuyó un cuestionario online basado en estudios previos, utilizando el correo electrónico y las redes sociales, a los optometristas de Israel. Dicho cuestionario sondeaba el nivel de error refractivo para el cual los encuestados realizarían prescripciones, para los diferentes tipos de error refractivo, a diversas edades y con variedad de síntomas.

**Resultados:** Respondieron 124 personas, obteniéndose un índice de respuesta de aproximadamente el 12–22%. El 92% de los participantes se había formado en Israel. En hipermetropía, la presencia de síntomas influyó considerablemente en los criterios de prescripción. Por ejemplo, para pacientes de 10-20 años de edad, el grado de hipermetropía para el cual el 50% de los facultativos realizaría una prescripción sería de +0,75 D en presencia de síntomas, pero se duplicaría este valor (+1,50 D) en ausencia de ellos. Como cabría esperar, los optometristas prescribirían a personas mayores grados más bajos de hipermetropía, en comparación a las personas jóvenes. Los facultativos más experimentados reflejaron una tendencia de menor probabilidad de prescripción cuanto menor fuera el grado de miopía y presbicia. El sexo del facultativo, el país de formación, el tipo de entorno de práctica, y los incentivos financieros no guardaron una relación sólida con los criterios de prescripción. Los criterios de prescripción hallados en este estudio son ampliamente comparables a los de los estudios previos y a los de las guías publicadas.

**Conclusiones:** Los criterios de prescripción optométrica en Israel pueden compararse a las recomendaciones de las guías publicadas por país de formación de los facultativos, profesional, género, o entorno laboral. Existen débiles indicadores que sugieren que los optometristas pueden volverse más conservadores, en cuanto a criterios de prescripción, con la experiencia.

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## Introduction

One of the most frequent decisions that optometrists make is whether to prescribe a correction for refractive errors, whether it be with spectacles or contact lenses. This decision is generally straightforward if a large uncorrected anomaly is present, but becomes much more difficult in borderline cases. Considering the fact that most optometrists make this decision several times every day, it is surprising that little research has been undertaken to help determine at what point optometrists typically intervene.

There are several guidelines that have been published to help optometrists and ophthalmologists when prescribing for refractive errors with either specific or general guidelines. The American Optometric Association provides guidelines for correction of hyperopia, myopia and presbyopia based on consensus among expert optometrists.<sup>1-3</sup> The American Academy of Ophthalmology has general guidelines for adults with refractive errors<sup>4</sup> and specific guidelines for children age three and younger.<sup>5</sup> The Royal College of Ophthalmologists has specific guidelines for strabismus, but not for healthy adults or children with refractive errors. The American Association for Pediatric Ophthalmology and Strabismus warns about and defines high refractive errors in children that might lead to amblyopia, but does not have specific prescribing guidelines.<sup>6</sup> Leat<sup>7</sup> provides guidelines for prescribing in childhood for various refractive

conditions and the topic was reviewed by O'Leary and Evans.<sup>8</sup>

In Israel, following the 1991 Optometry Law<sup>9</sup> two academic programs in optometry were established in 1995, with the first intake graduating in 1999. Most of the optometrists in Israel are graduates of those two schools, which provide a four-year undergraduate degree in optometry based on the European Diploma Syllabus. The schools, Hadassah Academic College<sup>10</sup> and Bar Ilan University, share several clinical faculty. In Israel, prescribing is carried out primarily by optometrists and not by ophthalmologists; therefore we limited this survey to optometrists.

This study aimed to assess prescribing decisions for borderline refractive prescriptions by Israeli optometrists and whether prescribing is influenced by working environment, gender and years of experience.

## Methods

An online questionnaire based on one used by O'Leary and Evans<sup>8</sup> was distributed to Israeli optometrists via email and social media: emails were sent to approximately 500 graduates of the two Israeli optometry schools. In addition, the questionnaire was posted on three Israeli optometry Facebook pages (with a total of 1600 members). It should be noted that there is considerable overlap between the

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