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What is the Value of Preference Values?

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In this issue of *JAMA Ophthalmology*, Linz and colleagues investigated the preference values and treatment preferences of patients with vitreomacular interface abnormalities (VIA) in three distinct countries.¹ To do so, they employed the Vision Preference Value Scale, which was first validated in 2004 in the Submacular Surgery Trial to measure the value that patients place on their vision.² Interestingly, the current study found similar results among patients from Thailand, the United Kingdom and United States. The authors justifiably conclude that their study has important implications for future research and for the delivery of patient-centered eye care. However, the authors do not go into great detail describing these implications, which are worthy of further consideration.

In recent years, patient-centered outcomes research and patient-centered care have been embraced not only by researchers, but also by funding and regulatory agencies such as the Food and Drug Administration (FDA) in the U.S. and the National Institute for Health and Care Excellence in the U.K. For example, the FDA has released guidance for industry on the use of patient-reported outcomes (PROs) in medical device³ and drug development.⁴ Concurrently, over more than a decade, the National Institutes of Health and the Patient-Centered Outcomes Research Institute have supported the development, validation and implementation of the Patient-Reported Outcomes Measurement Information System (PROMIS), which has become the gold-standard PRO assessment tool in many other fields of medicine in which it is now widely used in clinical trials and clinical practice.

It bears keeping in mind that PROs are not all the same. In vision care, there are myriad examples of PRO instruments that purport to measure distinct constructs, including functioning, psychosocial impact, symptoms, treatment adherence, and treatment burden.⁵ In the current study, the authors have used a far less-frequently employed type of PRO—one that evaluates the *value* a patient places on visual function, or the extent to which they prefer one health outcome over another.¹ While clinicians monitoring patient outcomes or researchers conducting a clinical trial might select another type of PRO, preference values have been underutilized in vision research for understanding the relative overall impact of different eye diseases and patients' preferences for competing treatment options.

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As we strive to deliver patient-centered eye care, a better understanding of our patients' preferences is essential. Preference values are unique in that they can be used to derive a single number to represent the value that an individual places on a particular health state. By contrast, other types of PROs query the impact of eye disease on one or more discrete constructs (e.g. mobility, activity limitation, or the psychosocial impact of vision impairment) and provide a unidimensional score for each construct being evaluated.⁶ By their very nature, preference values seek to reduce highly complex biological and social experiences to a single number in order to facilitate comparisons between distinct ocular health states. To do so, the preference value scale in this study is anchored at its two extremes to descriptions of death and perfect health with perfect vision. Between these extremes, any two patients may value a given health state differently based on its phenotypic manifestations, their personal values and expectations, and a host of other unmeasured factors.

What then can we learn from preference values? Most importantly, we can use preference values to make broad comparisons across disease states. For example, Linz and colleagues point out that the average preference value of patients with VIA was higher than for patients in previous studies with subfoveal choroidal neovascularization, retinal vein occlusion, and cataract, suggesting that these other conditions impact patients more severely than VIA.¹ A natural extension of this research would be to understand how preference values change over time, especially in the course of chronic eye diseases. Doing so would improve our understanding of how conditions like glaucoma, macular degeneration and diabetic retinopathy are embodied and experienced. Importantly, qualitative inquiry could be combined with preference valuing in a mixed-methods framework⁷ to provide an enriched understanding of the patient experience.

In addition, we stand to gain considerable knowledge by directly assessing patients' preferences for one treatment over another, as the authors did in this study when they compared enthusiasm for vitrectomy and pharmacologic vitreolysis. Linz and colleagues aptly point out that enthusiasm for a given treatment can be impacted by a host of factors,¹ including prior personal experience, the experiences of friends and family, how a physician presents treatment options, and anxiety about certain forms of treatment. However, it is crucial that these factors not be seen as getting in the way of measuring patient preferences, but are instead recognized as important components of the preferences themselves. Once again, a more granular qualitative approach would certainly improve our understanding of why one treatment may be preferred over another.

Preference values have been largely underutilized in vision research. In this study the authors do a nice job of demonstrating some of the worthy uses of this methodology, including the ability to compare the value placed on an ocular health state or treatment across countries and diagnoses. Future work may consider moving beyond simply analyzing the clinical and demographic correlates of preference values in order to describe the nuanced social, environmental and phenotypic circumstances that shape how patients with eye disease value their ocular health status.

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