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EDITORIAL

Optometry: a discipline and profession that feeds from and empowers other specialties



Optimetría: una disciplina y profesión que se alimenta de y potencia otras especialidades

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This issue of Journal of Optometry (J Optom) presents a series of studies providing in depth analysis of the mechanism of accommodation from different angles and using different methodologies^{1–5} along with other studies on the prevalence of very frequent eye dysfunctions such as refractive error^{6,7} and binocular vision anomalies of specific etiology,⁸ or definition of basic concepts of physiological optics⁹. These original contributions involve interdisciplinary teams where optometry is at its core as an indispensable discipline and a valuable profession. This represents well the duality I want to highlight in this editorial as I strongly believe on the interdisciplinary nature of modern science in general and particularly in Visual Science, and the intrinsic value of Optometry as an academic and scientific discipline and a technical and clinical profession. Sadly, to this view, quite frequently we see how different specialties tend to “encapsulate” within themselves trying to ignore the much more common interests they have than the few discrepancies that might see in each other. When modern science opens its arms to embrace perspectives from different backgrounds, we start to go back to the dark times where optometry and ophthalmology seem to ignore each other rather than work together for their clinical practice and innovative developments. Similarly, optometry sees physics or mathematics as a less relevant field compared with the clinical component. Fact is that Optometrists and Ophthalmologists are required to provide

timely and effective primary and specialized eyecare to the population.

Recently I had the honor to present a book in Portugal entitled “Visão, Olhos e Crenças” from Professor Luis Miguel Bernardo (translation: Vision, Eyes and Beliefs).¹⁰ In spite of the understanding of the eye’s anatomical structure from dissections and medical care, during centuries the optical function of the eye remained obscure to most of the great minds and clinicians dealing with this topic. In fact, by the end of the 19th century there remained a lot of misunderstandings or completely wrong ideas about the optical behavior of the eye as an image formation structure, not to say the almost inexistent knowledge about the visual processing. As a discipline, it is evident how important optometry was to help ophthalmology to understand the ocular organ as an imaging forming device, giving way to a plethora of new treatment approaches which has been at a peak of activity over the last 10 to 20 years. From the reading of the book I mentioned earlier, it was surprising to me how the word “Physicos” was used centuries ago to name the physicians and how close is from physics. In fact, medicine as a whole has an unprecedented dependence on physics and optometry for modern prevention, diagnosis and treatment, and this is particularly true within the eyecare where the physical understanding and “control” of light interacting with tissues has opened a highway towards more reliable diagnosis and treatment approaches. This highlights how important is the physical knowledge in eyecare, and the Optometrist with a profound understanding of physiological optics, anatomy of physiology of the eye and visual

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pathway is the profile that best bridges physical and medical fields.

As a profession, optometry is also crucial for the organization of highly efficient eyecare services and it is now clear that optometry can help to limit the extent of most preventable causes of blindness.² As a society, with an increased burden related with eyecare in an elderly population I cannot understand how we are going to deal in the future with the vision-related healthcare without an effective network of primary eye care supported by trained optometrist disseminated thought most territories, in close collaboration and understanding with the specialized care provided by ophthalmology physicians. In fact, this is the understanding of the World Health Organization in its Eye Care Service Assessment Tool (ECSAT).¹¹

This takes me to the initial message embedded in the title, first Optometry has to keep a strong load of physiological optics in its academic "DNA", which requires first a solid mathematical and physical knowledge; second, Optometry has to be at the core of primary eyecare services around the world to face the increasing burden of vision-related disease in the modern societies. Ophthalmology and Optometry have to be specialties that feedback each other, and this is valid in the scientific field for the faster progress of knowledge and innovation, and in the clinical field of their professions, in order to serve better the populations they are committed with and allow the scientific progress to reach sooner and more effectively our populations.

It is in the highest interest of visual health and technological progress that Optometrists evolve their clinical knowledge to fully serve primary eye care while keeping in their curriculum a strong body of knowledge in basic science, including a solid background in physiological optics and other supportive disciplines. This will keep our discipline essential for the future of effective eyecare world wide and serve the strategy of the World Health Organization. Optometry contributions to the understanding of the visual system will continue to strength the science and technological progress either autonomously or in multidisciplinary teams.

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