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Physicians' Perspectives on Luzinta's Role in Preventing Retinal Disorders: Insights from a Nationwide Survey

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Abstract

Background: *Retinal disorders, including age-related macular degeneration (AMD), diabetic retinopathy (DR), and digital vision syndrome (DVS), pose significant challenges globally and in Bangladesh. Luzinta (Lutein USP 20 mg + Zeaxanthin USP 5 mg capsule) has emerged as a potential preventive strategy for these conditions. This study aimed to assess ophthalmologists' perspectives on Luzinta's effectiveness, safety, and patient satisfaction in managing retinal disorders.*

Methods: *This cross-sectional survey was conducted over six months, involving 300 ophthalmologists from urban and rural areas of Bangladesh. A structured questionnaire collected data on preferred conditions for Luzinta use, its perceived benefits, and patient outcomes. Quantitative data were analyzed using descriptive statistics and chi-square tests, while qualitative responses were thematically analyzed.*

Results: *A majority of respondents (67.33%) preferred Luzinta for managing all three conditions—AMD, DR, and DVS. An overwhelming 91.33% agreed on the necessity of regular supplementation, while 90.10% supported its effectiveness in preventing DR. Patient satisfaction was notably high, with 50.33% reporting "highly satisfied" experiences & 46% reporting "satisfied" experiences. However, only 55.33% of respondents were aware of Luzinta's anti-inflammatory properties, indicating room for educational improvements.*

Conclusion: *The study underscores the broad acceptance of Luzinta among Bangladeshi ophthalmologists as a preventive approach for retinal disorders. While patient outcomes and physician confidence in Luzinta are high, targeted awareness initiatives could further enhance its integration into clinical practice. These findings offer valuable insights for retinal care in resource-constrained settings.*

Keywords: *Luzinta, Lutein, Zeaxanthin, Retinal Disorders, Diabetic Retinopathy, Age-Related Macular Degeneration, Digital Vision Syndrome*

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INTRODUCTION

Retinal disorders represent a significant and growing burden on global public health, with their impact disproportionately felt in developing countries like Bangladesh. Globally, conditions such as diabetic retinopathy (DR), age-related macular degeneration (AMD), and retinopathy of prematurity (ROP) are leading causes of visual impairment and blindness, affecting millions and imposing substantial economic costs (1,2). In Bangladesh, the prevalence of these disorders is rising due to demographic transitions, including an aging population and increasing prevalence of diabetes. Studies indicate that diabetic retinopathy alone has become a major public health concern in rural Bangladesh, with high rates linked to inadequate glycemic control and lack of awareness about the disease's ocular complications. This underscores the urgent need for targeted interventions and accessible treatment strategies to combat retinal diseases effectively (3,4). The current therapeutic landscape for retinal disorders is marked by a reliance on treatments like anti-vascular endothelial growth factor (VEGF) injections, laser therapies, and, in some cases, surgical interventions. These treatments have demonstrated significant efficacy in reducing disease progression and preserving vision in conditions such as diabetic macular edema and wet AMD. However, their accessibility remains a challenge in resource-constrained settings like Bangladesh. For instance, frequent intravitreal injections required by anti-VEGF therapies pose logistical and economic challenges for patients and healthcare systems, particularly in rural and underserved areas (5,6). Additionally, gaps in awareness and adherence to preventive care further exacerbate the disease burden, as seen in diabetic retinopathy screening programs where participation rates remain suboptimal despite their proven benefits (7). The unmet need for innovative and sustainable therapeutic strategies that address these barriers is glaring, emphasizing the need for solutions tailored to local contexts. Luzinta, a novel therapeutic candidate, a combination of Lutein and Zeaxanthin, has emerged as a potential intervention for retinal disorders, aiming to address both efficacy and accessibility challenges (8). Preliminary studies suggest that Luzinta works through mechanisms involving neuroprotection and anti-inflammatory pathways, which are critical in mitigating retinal cell damage and vascular complications. Such properties make it a promising alternative or adjunct to current treatments, particularly in early disease stages where preserving neuronal integrity is paramount. However, while Luzinta's pharmacological profile appears favorable, comprehensive clinical evidence supporting its efficacy and safety in real-world settings is limited. Understanding its potential role in retinal disorder management requires input from key stakeholders, including physicians, whose perspectives are invaluable in shaping its clinical integration (9). The role of physicians in adopting and advocating for new therapeutic interventions cannot be overstated. Their insights not only reflect clinical efficacy but also encompass practical considerations like patient acceptability, adherence, and systemic implementation challenges. In resource-limited contexts like Bangladesh, where healthcare delivery often relies on primary care settings, the perspectives of physicians are critical for understanding the feasibility and scalability of novel treatments. Moreover, a nationwide survey of physicians offers a unique opportunity to capture diverse insights, reflecting the heterogeneity of healthcare delivery across urban and rural settings. This study seeks to fill the critical knowledge gap regarding Luzinta's potential role in preventing retinal disorders by exploring the perspectives of physicians across Bangladesh. By assessing their views on Luzinta's efficacy, safety, and practical utility, this research aims to provide an evidence-based foundation for its potential integration into retinal care protocols. Furthermore, the study intends to highlight systemic challenges and opportunities for improving retinal disease management in Bangladesh, contributing to the broader discourse on addressing the global burden of visual impairment.

METHODS

This cross-sectional survey-based study aimed to assess ophthalmologists' perspectives on the role of Luzinta (Lutein USP 20 mg + Zeaxanthin USP 5 mg capsule) in preventing retinal disorders. Conducted over six months, the study involved 300 practicing ophthalmologists from diverse healthcare settings in Bangladesh, selected using stratified random sampling to ensure representation from both urban and rural

areas. Eligible participants were practicing ophthalmologists with experience managing retinal disorders and familiarity with lutein- and zeaxanthin-based therapies. Those not in active practice or unwilling to participate were excluded. A structured questionnaire was developed and pre-tested for clarity and reliability. It included sections on demographic details, clinical experience, familiarity with Luzinta, and its perceived efficacy, safety, and integration challenges. Data collection was conducted by physician's chamber-based evidence to ensure broad participation. Informed consent was obtained before the survey, and confidentiality was maintained throughout. Descriptive statistics summarized demographic and practice characteristics, while chi-square tests and logistic regression analyzed factors influencing responses. Open-ended question data were analyzed thematically to identify key insights. Ethical approval was secured, and the study adhered to the principles of the Declaration of Helsinki. This methodology provides a comprehensive understanding of ophthalmologists' views on Luzinta and its potential integration into retinal care practices in Bangladesh.

RESULTS

Table 1: Preferred Conditions for Luzinta Use (N=300)

Condition	Frequency	Percentage
Age related macular degeneration	90	30.00%
Diabetic Retinopathy	46	15.30%
Digital Vision Syndrome	11	3.7%
All of the above	202	67.33%

*Multiple responses present

Among the surveyed ophthalmologists (N=300), the majority (67.33%) indicated that they would prefer Luzinta for all three conditions: age-related macular degeneration (AMD), diabetic retinopathy (DR), and digital vision syndrome (DVS). Individually, AMD was the most frequently selected condition (30.00%), followed by DR (15.30%), while DVS was the least commonly preferred (3.7%). The results highlight the widespread appeal of Luzinta as a versatile treatment option across multiple retinal and vision-related disorders.

Table 2: Agreement on the Necessity of Regular Supplementation of Luzinta (N=300)

Response	Frequency	Percentage
Agree	274	91.33%
Disagree	26	8.67%

The vast majority of respondents (91.33%) agreed on the necessity of regular supplementation with Luzinta to prevent age-related macular degeneration and maintain retinal health, while only 8.67% disagreed.

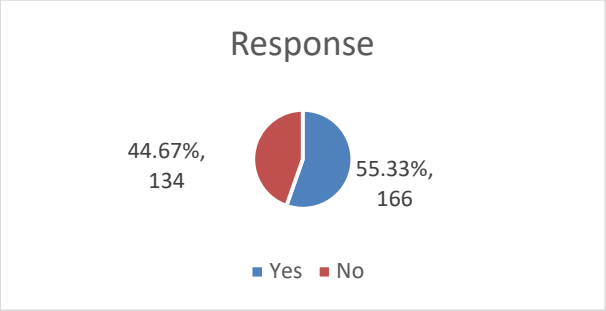

Figure 1: Awareness of Luzinta's Anti-inflammatory Properties (N=300)

The findings presented in Figure 1 show that a slight majority of respondents (55.33%) were aware of Luzinta's anti-inflammatory properties, while 44.67% were not. This indicates that while over half of the

ophthalmologists recognize this additional benefit, there is a substantial proportion that may require further education regarding Luzinta's full therapeutic potential.

Table 3: Agreement on Statements About Luzinta (N=300)

Statement	Frequency	Percentage
No hazy, spotty, or cloudy vision	24	8.30%
Ensures sharp and fine vision	46	15.90%
Ensures complete relief from UV & blue light damage	16	5.50%
All of the above	223	76.90%

*Multiple responses present

The majority of respondents (76.90%) agreed with all the statements about Luzinta, emphasizing its ability to prevent hazy or spotty vision, ensure sharp and fine vision, and provide complete relief from UV and blue light damage. Among individual statements, "ensures sharp and fine vision" was most frequently endorsed (15.90%), followed by "no hazy, spotty, or cloudy vision" (8.30%), and "ensures complete relief from UV & blue light damage" (5.5%). These findings highlight strong overall confidence in Luzinta's comprehensive vision benefits.

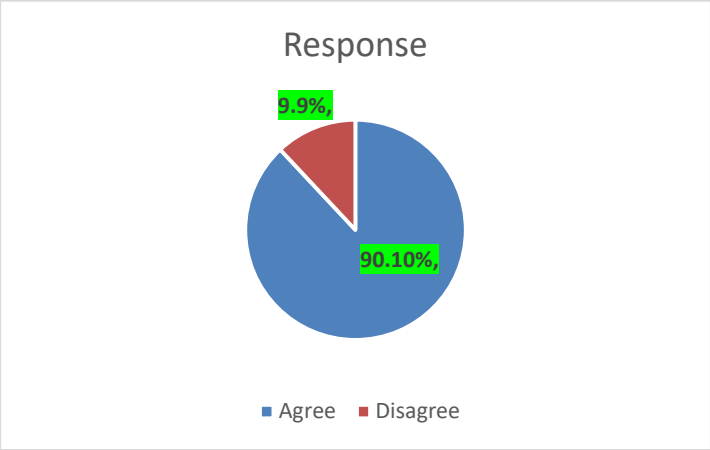

Figure 2: Agreement on Luzinta's Effectiveness in Preventing Diabetic Retinopathy

Figure 2 demonstrates that a significant majority of respondents (90.10%) agreed on Luzinta's effectiveness in preventing diabetic retinopathy, while only 9.9% disagreed. This highlights strong support among ophthalmologists for Luzinta as a preventive measure for diabetic retinopathy.

Table 4: Patient Experience with Luzinta (N=300)

Response	Frequency	Percentage
Highly Satisfied	151	50.33%
Satisfied	138	46.00%
Average	11	3.67%

The majority of respondents reported positive patient experiences with Luzinta, with 50.33% indicating that their patients were "highly satisfied" and 46.00% reporting "satisfied" experiences. Only a small proportion (3.67%) rated the experience as "average," and no respondents reported unsatisfactory experiences. These results underscore the strong satisfaction levels associated with Luzinta among patients.

DISCUSSION

The current study aimed to explore ophthalmologists' perspectives on Luzinta (Lutein USP 20 mg +

Zeaxanthin USP 5 mg Capsule) and its role in preventing retinal disorders, with a focus on age-related macular degeneration (AMD), diabetic retinopathy (DR), and digital vision syndrome (DVS). The findings reveal strong agreement among ophthalmologists regarding Luzinta's benefits, while also highlighting areas for improvement in awareness and patient education. A significant majority of respondents (67.33%) preferred Luzinta for preventing all three conditions (AMD, DR, and DVS), which aligns with the known therapeutic benefits of lutein and zeaxanthin. Studies have consistently demonstrated that these carotenoids improve macular pigment density, protect against oxidative damage, and enhance visual function, particularly in AMD patients (10,11). The preference for AMD aligns with clinical findings that lutein and zeaxanthin supplementation reduces the risk of AMD progression (12). The lower preference for DVS (3.7%) suggests limited awareness of their role in alleviating blue light-induced retinal stress, a feature documented in experimental studies (13). These findings highlight the need for broader dissemination of evidence supporting the utility of lutein and zeaxanthin in DVS and other emerging applications. The strong agreement (91.33%) on the necessity of regular supplementation underscores the importance of preventive strategies in retinal care. This observation resonates with results from the Age-Related Eye Disease Study 2 (AREDS2), which demonstrated that lutein and zeaxanthin supplementation significantly reduced the risk of late AMD and other retinal complications (12). Moreover, studies like Ma et al. and Bian et al. underscore the necessity of consistent supplementation to maintain visual acuity and contrast sensitivity (10,14). The minority (8.67%) who disagreed may reflect gaps in understanding or skepticism about the clinical efficacy of these supplements, indicating a need for targeted educational initiatives. Awareness of Luzinta's anti-inflammatory properties was moderate, with 55.33% of ophthalmologists recognizing this benefit. This limited awareness may hinder the optimal integration of Luzinta into clinical practice, given that lutein and zeaxanthin are well-documented to reduce inflammation and oxidative stress in retinal tissues (14,15). For instance, lutein and zeaxanthin have been shown to modulate inflammatory markers such as VEGF and ICAM-1, critical in conditions like DR (16,17). These findings emphasize the need for greater emphasis on educating ophthalmologists about the molecular mechanisms underlying Luzinta's efficacy. A notable 76.90% of respondents agreed with all statements about Luzinta's features, including its ability to prevent hazy vision, provide relief from blue light damage, and ensure sharp vision. Comparative studies affirm these benefits, demonstrating that lutein and zeaxanthin protect against blue light-induced retinal damage and improve visual outcomes (13,18). The specific agreement on blue light protection, however, was lower (5.5%), suggesting a knowledge gap regarding its relevance in digital screen-induced eye strain, an area increasingly relevant in modern ophthalmology (19). Ophthalmologists overwhelmingly supported Luzinta's effectiveness in preventing DR, with 90.10% in agreement. This finding is supported by evidence that lutein and zeaxanthin improve visual acuity and macular edema in DR patients and reduce oxidative stress-induced vascular damage, key in DR pathogenesis (16,20,21). However, some studies suggest mixed results, as short-term interventions in non-proliferative DR did not always yield significant improvements in visual parameters (22). These discrepancies underline the importance of patient selection and long-term supplementation strategies in optimizing outcomes. Finally, patient satisfaction with Luzinta was exceptionally high, with 50.33% reporting "highly satisfied" and 46.00% reporting "satisfied" experiences. This aligns with findings from studies demonstrating improvements in contrast sensitivity, glare recovery, and overall quality of life with carotenoid supplementation (23,24). The absence of dissatisfaction further reinforces Luzinta's acceptability and tolerability in clinical use. In summary, the findings highlight strong support among ophthalmologists for Luzinta's role in preventing retinal disorders, corroborated by extensive literature on the efficacy of lutein and zeaxanthin. However, gaps in awareness of specific benefits, such as anti-inflammatory properties and blue light protection, indicate opportunities for enhanced education and research dissemination. These insights provide a robust foundation for integrating Luzinta into retinal care strategies, particularly in resource-constrained settings like Bangladesh, where preventive interventions can have a profound impact.

CONCLUSION

This study highlights the strong support among ophthalmologists in Bangladesh for the use of Luzinta (Lutein USP 20 mg + Zeaxanthin USP 5 mg capsule) as a preventive strategy for retinal disorders,

particularly age-related macular degeneration and diabetic retinopathy. The findings emphasize Luzinta's perceived efficacy, safety, and patient satisfaction, while also identifying gaps in awareness regarding its anti-inflammatory properties and applications in less common conditions like digital vision syndrome. The overwhelmingly positive perspectives underscore Luzinta's potential for integration into clinical practice, provided that educational initiatives and broader awareness campaigns are implemented to address knowledge gaps. These insights are particularly valuable for resource-limited settings, where preventive approaches can play a pivotal role in reducing the burden of retinal diseases and improving patient outcomes.

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Conflict of interest: None declared

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