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Keratoconus – Impact on Mental Health and Quality of Life Before and After Specific Therapeutic Interventions: A Review

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Abstract— Keratoconus is a chronic disease that causes progressive corneal ectasia, leading to significant visual impairment. The asymmetry of vision caused by corneal thinning negatively affects patients' quality of life and mental health. This review aims to present an impact of keratoconus on mental health and quality of life before and after specific therapeutic interventions.A literature review was conducted using PubMed, focusing on studies published between 2007 and 2025. Keywords related to quality of life and mental health among patients with keratoconus and treatment methods for keratoconus were used, and the most relevant articles were selected. Keratoconus, as a chronic disease that progressively impairs visual abilities, has a negative impact on patients' quality of life and mental health. The aspects of life most affected by keratoconus include visual and pain symptoms, professional life, social life, entertainment, healthcare, daily activities, and driving. The most common mental disorders developing as a result of the diagnosis and progression of keratoconus are depression and anxiety disorders. Therapeutic methods used in the treatment of keratoconus may contribute to improving patients' quality of life and mental health.

Keywords— keratoconus, cross-linking, keratoplasty, quality of life, mental health

1. INTRODUCTION

Keratoconus (KCN) is a chronic, non-inflammatory disorder characterized by progressive thinning of the cornea and its conical protrusion, leading to asymmetric visual deterioration, myopia, and irregular astigmatism [1–3]. The central and paracentral corneal thinning observed in this condition results not only in decreased visual acuity but also in symptoms such as pain, photophobia, and ocular tenderness [4]. In most patients, the disease affects both eyes, although the quality of vision between the eyes is usually significantly different [5].

Although the exact causes and mechanisms of keratoconus development are not yet fully understood, well-documented risk factors include a family history of the disease, habitual eye rubbing, sleep apnea, and the presence of atopic skin conditions [6–8]. Recent studies by Corrêa et al. (2025) and Huang et al. (2025) also indicate possible correlations between keratoconus and sleep position as well as obesity, respectively [4,9]. The latest research on the pathophysiology of KCN by Passaro et al. (2025) demonstrates links between the disease's pathogenesis and oxidative damage, corneal inflammation, and cellular aging (senescence) [10].

Keratoconus typically first appears between the ages of 10 and 30, with progression potentially continuing until around 40 years of age [1,2,8,11]. The rate of disease progression varies depending on the patient's age. Generally, the fastest progression is observed in children, while in patients aged 19–24 years the progression is faster than in young adults aged 25–30 years [12,13].

The global incidence of keratoconus is 1.38 per 1000 people; however, its prevalence varies significantly depending on geographic region and ethnic group [6,14]. The most affected populations are Asian, particularly those from Middle Eastern countries such as Saudi Arabia, where the incidence reaches over 4790 cases per 100,000 inhabitants [1,5].

Visual asymmetry caused by corneal ectasia significantly impacts the patient's quality of life. Many clinicians believe that the eye with better visual acuity (VA) predominantly influences the patient's overall quality of life. Keratoconus often leads to considerable interocular asymmetry, making this issue particularly relevant. Although both the visual function of the better eye and the degree of asymmetry affect vision-related quality of life, the influence of the better-seeing eye is generally stronger than the differences between the eyes [15]. Additionally, individuals with keratoconus have a higher incidence of mental health disorders compared to the general population, such as obsessive-compulsive disorder, generalized anxiety disorder, and depression, with depression being the most commonly diagnosed [16–18].

Despite the progressive nature of keratoconus, no statistically significant differences in mortality rates have been observed between individuals with and without diagnosed KCN, whether from natural or unnatural causes. However, there may be an increased risk of death due to nervous system and sensory organ diseases in affected individuals [19].

2. MATERIALS AND METHODS

An extensive literature review was conducted using PubMed and Google Scholar, focusing on studies published between 2007 and 2025. Keywords related to quality of life and mental health among patients with keratoconus and treatment methods for keratoconus were used to guide the search, including: “keratoconus”, “treatment of keratoconus”, “keratoplasty”, “corneal transplant”, “intrastromal corneal ring segment”, “impact of keratoconus on quality of life”, “impact of keratoconus on mental health”. Studies were evaluated based on their relevance, methodological quality, and scientific significance. The reviews included articles published in English, French and Portuguese.

3. IMPACT OF KERATOCONUS ON QUALITY OF LIFE

Quality of life (QoL) is an important indicator in research on chronic diseases such as keratoconus [6]. Standardized questionnaires are used to assess quality of life, including those specifically designed for keratoconus studies: the Keratoconus Outcomes Research Questionnaire (KORQ), which covers symptoms and limitations caused by keratoconus, and the Keratoconus End-Points Assessment Questionnaire (KEPAQ), which consists of a functional subscale (KEPAQ-F) and an emotional subscale (KEPAQ-E) [6,20]. Another commonly used, more universal tool is the 25-item National Eye Institute Visual Function Questionnaire (NEI-VFQ-25), which measures the extent to which a particular vision problem affects daily functioning and psychological well-being [21,22]. Additionally, the standardized health-related quality of life questionnaire Short Form Health Survey 36 (SF-36) is used for assessment [16].

Like all chronic diseases, keratoconus can negatively impact the psychosocial life of the patient. Quality of life deterioration is most commonly observed in patients whose chronic disease develops during critical periods of physical, cognitive, and psychosocial development, such as adolescence or early adulthood [5].

In recent years, several studies have been published regarding the quality of life in patients with keratoconus [6,20,22,23]. According to a study by Fan et al. (2024), the topics most frequently raised by patients concerning reduced quality of life due to diagnosis or disease progression include driving, career and finances, interpersonal relationships, leisure and entertainment, experiences with healthcare, and discomfort directly caused by disease symptoms and treatment methods [3].

Another study by Fournié et al. (2023) highlighted the impact of keratoconus on social life and student life, as well as psychological state and changes in traits, behaviors, and habits as patients adapt to worsening vision [23]. In one of the most recent studies on quality of life in keratoconus patients by Belpard et al. (2025), the KEPAQ questionnaire developed by Ferreira et al. was used to identify the most important factors affecting quality of life in individuals not undergoing surgical treatment for KCN. The study showed that lower quality of life was mainly correlated with distance visual acuity and astigmatism in the better eye [20].

A. Symptoms and Visual Function Impairment

Symptoms of keratoconus, as a chronic eye disease, are among the most frequently cited factors affecting quality of life [22]. Patients report both acute and chronic symptoms: decreased visual acuity, eye pain and dryness, headaches, photophobia, tearing, as well as eye irritation, swelling, redness, and hypersensitivity [6]. Moreover, patients often experience symptoms that interfere with vision use, such as starburst light effects, impaired depth perception and peripheral vision, and double vision [6,23].

The most commonly reported troublesome symptom in patient interviews was light sensitivity, which primarily hindered night driving and screen use. Reduced visual acuity and distortion caused difficulties in recognizing people and spatial orientation, while prolonged focus led to fatigue and migraine headaches [23].

These visual symptoms not only impede daily activities but also contribute to physical discomfort and feelings of embarrassment due to eye appearance and vision-related limitations [6]. Patients often described feelings of frustration and helplessness accompanying symptom worsening [18,23,24].

B. Healthcare and Treatment

Many patients shared negative experiences related to access to medical care and its quality. The diagnosis itself triggered strong emotional responses, such as helplessness, anxiety, and depression. Both pharmacological and surgical treatments were sometimes viewed as ineffective, with side effects and long recovery times placing a heavy burden on patients. Surgical procedures caused significant anxiety, described as stressful and associated with difficult recoveries. Many feared surgery performed without general anesthesia and expressed regret over the lack of effective therapy [6,25].

Despite these difficulties, patients also noted positive aspects of treatment. Hope and excitement often accompanied corneal transplantation (keratoplasty), with many reporting improved quality of life afterward [6]. Cross-linking provided a sense of security and halted disease progression [25,26]. Contact lens use also contributed to improved visual acuity and overall comfort [27].

C. Work Life and Finances

The impact of keratoconus on education and early career development is widely documented. Vision difficulties often arise during school years, negatively affecting learning and causing feelings of isolation from peers [13]. Many participants reported that visual limitations prevented them from pursuing their desired career paths, leading to frustration, sadness, and disappointment [6].

Educational challenges, feelings of disability, and reduced independence decreased career opportunities at a young age. The progressive nature of the disease often forced patients to change professions. Many faced barriers to career advancement, avoided seeking promotions, and some were dismissed from work [6]. Additional difficulties included the need to conserve vacation days for frequent visits to specialized centers, often far from home [23].

Patients reported problems working with screens and performing precise tasks. Reduced efficiency resulted from eye fatigue during computer use, photophobia, and difficulties with frequent driving [23]. Work errors accompanied by frustration and feelings of incompetence were also noted. Coping strategies included using multiple monitors, larger fonts, high-contrast screens, magnifying devices, and assistance from colleagues, although some felt embarrassed using such aids [6].

Employers were sometimes unaware of the disease’s nature, leading to misunderstandings and occasional professional issues. While some patients obtained workplace accommodations (e.g., improved lighting, better monitors, protective glasses), others had to give up their professions or change industries entirely [23,28].

The decline in quality of life related to occupational limitations is further exacerbated by the high costs of keratoconus treatment [6]. The expensive therapeutic methods often lead to delayed or abandoned treatment, worsening vision. Financial difficulties for keratoconus patients often begin at a young age when the disease is diagnosed, and expenses are particularly burdensome early in their careers [6]. High costs of contact lenses, especially when poorly fitted resulting in frequent loss, damage, and replacement, were also frequently cited as a source of frustration [23].

D. Recreation and Enjoyment of Life

Patients reported difficulties experiencing satisfaction and joy from everyday life activities. Both the symptoms of the disease and the side effects of treatment limited their ability to participate in various forms of leisure activities and to derive pleasure from them. This included attending concerts, playing sports, swimming, playing computer games, and engaging in creative hobbies. Many patients expressed a desire to improve their vision in order to fully enjoy these activities [6].

References to sports were particularly frequent. Difficulties in practicing sports and problems with using contact lenses were sources of frustration. Patients lost confidence in competitive hobbies and gradually lost interest in their previous passions, which had negative emotional consequences. The disease also limited the ability to derive visual pleasure from experiences such as sightseeing, attending concerts, reading, or watching films [6,23].

E. Interpersonal Relationships and Social Life

Keratoconus had a significant impact on patients’ relationships with family, friends, and partners. Many felt insufficiently understood by others because their vision problems were not visible to those around them. The situation was worsened by experiences of exclusion or discrimination in various social settings. Patients often expressed a desire to “look normal,” especially in school or work contexts [6,18].

Difficulties in recognizing familiar faces led to uncomfortable situations and feelings of embarrassment. A significant limitation was the inability to drive a car after dark, which hindered participation in social gatherings [23,24].

Many patients avoided discussing their condition for fear of being perceived as bothersome or boring. Social interactions were marked by tensions arising from frustration, limited functioning, and the need to ask for help. Those affected by the disease often experienced shame and guilt but simultaneously expressed gratitude towards their loved ones for the support they received [6,28,29].

F. Daily Life and Driving

The most frequently emphasized aspect of daily life by patients was the need to adapt the home environment to functioning with impaired vision. Changes included using larger screens, fonts that facilitate reading, magnifying devices, voice navigation, as well as wearing sunglasses and protective glasses or adjusting lighting (e.g., warm light, lowering blinds) due to symptoms of photophobia [23,24].

Patients with keratoconus also reported decreased efficiency in household tasks such as cleaning, cooking, or gardening. Difficulties were also noted with shopping, using public transportation, and navigating unfamiliar places [23].

Many patients had problems driving, especially after dark, in the rain, or in unfamiliar environments. These difficulties affected their confidence, driving ability, and overall functioning, including social relationships, career development, and leisure activities. Strong emotions accompanied these challenges, such as anxiety, frustration, and sadness, along with the need to use coping strategies, e.g., driving slower, choosing alternative routes, or completely avoiding driving [6].

Many patients worried about obtaining or losing their driver’s license due to not meeting visual requirements. Problems with recognizing road signs, glare from headlights, blurred vision, and difficulties judging distances (particularly when parking) were common. Some experienced shame over being unable to drive and feeling judged by others [6,18].

G. Psychological Impact

The most commonly reported psychological problems were feelings of anxiety, worry, and fear—mainly related to the possibility of vision loss, the risk of traffic accidents due to limited visual field, and fear of surgical procedures [23,30]. Many patients also expressed concern for their children’s health, being aware of the hereditary nature of keratoconus [6,23].
Although studies show that patients’ quality of life improves as their knowledge about the disease increases, those with a family history of keratoconus generally exhibit more emotional difficulties than those without such history. This may indicate elevated stress due to negative experiences related to the disease within the family or concerns about their own health both before and after diagnosis [28].

4. MENTAL STATE OF PATIENTS WITH KERATOCONUS

In response to the symptoms of the disease, individuals affected by keratoconus modified their daily behaviors and routines or consulted doctors in search of appropriate psychiatric treatment methods [1,16].

Studies conducted by Alfardan et al. (2023) also demonstrated an increased prevalence of mental disorders in this patient group, especially symptoms of depression (56.1% of respondents) and anxiety disorders (63.2%). In the same group of keratoconus patients, schizophrenia was diagnosed in 10.5%, and bipolar disorder in 1.8%, although the majority (51%) had a mental illness diagnosis prior to their keratoconus diagnosis [5]. Other research by Yildiz et al. (2021) showed that the likelihood of developing a mental disorder increases with the severity of keratoconus, and patients with psychiatric diagnoses scored significantly lower on the SF-36 questionnaire [16].

Besides diagnoses of mental illnesses and disorders, patients with keratoconus more frequently exhibit depressive and obsessive symptoms, as well as higher neuroticism and increased stress levels compared to healthy individuals, as demonstrated by Aslan et al. (2021) [18]. The high prevalence of psychiatric symptoms observed in keratoconus patients is explained by intense emotional stress caused by progressive vision deterioration and awareness of the disease's incurable and chronic nature [18,24].

The mental state of patients with keratoconus changes with disease progression. A systematic review conducted by Durakovic et al. (2023) on mental health among individuals with KCN found that although emotional well-being declines in correlation with decreasing visual acuity (VA), patients' mental states improve over time. This suggests acceptance of the chronic illness as time passes and as keratoconus progression stabilizes [30].

A. Depression

Depression is one of the most common psychiatric disorders diagnosed in patients both before and after a keratoconus diagnosis. This illness seriously impacts the course of KCN treatment by hindering treatment progress and reducing effectiveness through decreased patient engagement and adherence to medical recommendations [1,24].

A study by Bak-Nielsen et al. (2019) showed that individuals with keratoconus have a 108% higher risk of developing depression compared to those without the disease [31]. Similarly, an analysis by Moschos et al. (2018) revealed that only 12.5% of keratoconus patients had no symptoms of depression, while 46.4% experienced mild depression, 28.6% moderate symptoms, and 12.5% severe depression [32]. It was noted that the psychological consequences of the disease may be more debilitating than the deterioration of visual acuity itself. At the same time, it was observed that patients' mental state improved over time, possibly reflecting disease stabilization and better adaptation to living with keratoconus [31,32].

The relationship between depression and keratoconus is bidirectional and complex. Each condition can influence the development or worsening of the other. Depressed individuals may engage in behaviors that negatively impact keratoconus progression, such as frequent eye rubbing or neglecting regular ophthalmologic visits. Additionally, chronic stress and emotional burden related to depression may impair immune function or exacerbate inflammation that could contribute to keratoconus development [1].

B. Anxiety Disorders

In quality-of-life studies, patients often report anxiety related to treatment costs and efficacy, driving, job loss, or the need for assistance in daily activities. The frequency with which KCN patients experience intense stress leads to the development of coping mechanisms typical of anxiety disorders. Patients tend to avoid situations where vision impairment might cause problems, such as avoiding long car trips, skipping social gatherings, or refraining from seeking promotions [6,24].

Patients experiencing distressing and limiting visual symptoms characteristic of keratoconus tend to exhibit anxiety symptoms and disorders, as confirmed by research in Saudi Arabia by Alfardan et al. (2023), which found anxiety disorders to be the most common mental disorders among KCN patients [5]. A study by Yildiz et al. (2021) of 94 keratoconus patients showed that 21.2% experienced moderate to severe anxiety symptoms [16]. Moreover, keratoconus patients have higher rates of anxiety-related psychiatric disorders such as obsessive-compulsive disorder or generalized anxiety disorder [17,18].

C. Personality Disorders

Although individuals with keratoconus often show different personality test results compared to the general population, existing research has not confirmed the existence of a characteristic "personality profile" specific to this patient group [17]. Studies by Aiello et al. (2024) support the hypothesis that individuals with KCN more frequently demonstrate dysfunctional coping mechanisms than the general population. Furthermore, personality disorder traits were more commonly observed in keratoconus patients. Among 30% of the patients studied, at least one Cluster C personality disorder was diagnosed, which is a rate nine times higher than in control groups. Additionally, KCN patients exhibited more pronounced psychosomatic symptoms and a characteristic neurotic temperament [21].

D. ADHD

Research conducted by Safir et al. (2023) on a large group of adolescents and adults found a higher incidence of keratoconus among patients with ADHD compared to the general population, especially in male patients. Although a causal relationship cannot be established, these results highlight the need for further research on the potential impact of frequent eye rubbing in individuals with ADHD [33].

5. THE IMPACT OF VARIOUS THERAPEUTIC METHODS ON THE QOL AND MENTAL STATE OF PATIENTS

Commonly used therapeutic methods in the treatment of keratoconus include the use of customized contact lenses (most often hard or hybrid lenses), corneal collagen cross-linking (CXL), implantation of intracorneal ring segments (ICRS), keratoplasty (PK, DALK), as well as combinations of these methods [23,34].

According to studies by Fournié et al. (2023), both the disease itself and each of the above-mentioned therapeutic methods affect areas of quality of life such as social life, professional life, financial costs, and psychological aspects [23].

A study on patients' subjective perceptions of keratoconus treatment methods conducted by Vought et al. (2025), based on analysis of social media posts, showed that laser procedures were the most positively received topics, whereas corneal implants attracted the most negative opinions [35].

A. Contact lenses

One of the most frequently used therapeutic methods for keratoconus, due to its non-invasiveness, is the use of patient-tailored hard or semi-hard (hybrid) contact lenses [23,36]. Research has shown that in keratoconus patients, satisfaction with vision correction via contact lenses positively influences their overall health assessment. It is noteworthy that keratoconus patients able to wear contact lenses tend to have a more positive attitude and are more open and sociable compared to those who cannot use them [28].

However, many patients develop intolerance to hard or hybrid lenses over time, which may limit their continued use. Therefore, despite the benefits that lenses bring to quality of life, alternative surgical treatment methods should be considered in cases of intolerance [36].

B. Cross-Linking

Corneal collagen cross-linking (CXL) is currently a standard treatment for keratoconus, primarily aimed at halting disease progression in its early stages [37,38]. A major limitation of this method is that it does not correct impaired vision but only stops or slows down the progression of corneal ectasia. Similarly to its effect on vision quality, CXL has been shown to stabilize patients' quality of life and mental state, confirming the relationship between patients' visual capabilities and life satisfaction [39].

By conducting ophthalmologic and psychological assessments before and after the procedure, high efficacy of CXL was demonstrated in improving aspects of quality of life such as mental health, independence, pain symptoms (headache and eye pain), and physical activity limitations [38,40,41].

Due to the popularity of this procedure among keratoconus patients and its effectiveness in halting vision deterioration and quality of life decline, research is ongoing to improve this method by increasing its effectiveness or extending its function to enhance vision quality post-treatment [37,42].

C. Intracorneal Ring Segment (ICRS)

An important therapeutic option for visual rehabilitation in keratoconus is the implantation of intracorneal ring segments (ICRS). These polymer rings are inserted into the cornea to alter its geometry and thereby improve the patients' visual abilities [3].

The main types of ICRS include the commonly used, reversible INTACS system, the more modern and patient-specific AS INTRASEG, and the full-ring MyoRing, mainly used in more advanced stages of the disease [34,43,44]. Implantation is performed through a stromal tunnel created mechanically or with a femtosecond laser, which increases the precision of the procedure.

In the publication by Rodrigues et al. (2024), the VFQ-25 and SF-36 questionnaires were used to assess quality of life before ICRS implantation and at 3, 6, and 12 months post-surgery. For most patients, psychological symptoms and quality of life improved after surgical intervention. Psychosocial criteria also improved, and dependence on others decreased, confirming that ICRS implantation can enhance quality of life in keratoconus patients [45].

D. Keratoplasty

Corneal transplantation is an irreversible and the most invasive therapeutic method widely used in advanced stages of keratoconus. It is mainly applied when corneal thinning is severe or its transparency is significantly compromised [46,47]. Currently, penetrating keratoplasty (PK) is still the more commonly performed full-thickness transplant, but the alternative deep anterior lamellar keratoplasty (DALK) is increasingly chosen. Although technically more challenging, DALK offers good visual outcomes and a lower risk of immunological complications [48].

According to research by Jurkiewicz et al. (2024), which assessed quality of life using the NEI-VFQ 25 questionnaire, keratoplasty positively impacts quality of life compared to advanced keratoconus in activities related to near and distance vision, as well as visual acuity and corneal transparency. This indicates that allografts in patients with stage 3 and 4 keratoconus contribute to long-term improvement in overall quality of life [46].

Long-term studies by Niziol et al. (2013), focusing on the probability of graft rejection, transplant failure, and keratoconus recurrence up to 27 years post-transplant, revealed significant risks associated with this therapeutic method. According to their findings, graft rejection within the first 2 years affects as many as 41% of patients, 12% of surgeries failed, and in 10% of cases, keratoconus recurred within 20 years after surgery. Despite this, patients who avoided these complications showed high quality of life scores 18–26 years post-operation (average 84.5 on the NEI-VFQ-25 questionnaire) [47].

Given that the greatest limitation of PK and DALK is the high risk of graft rejection, biosynthetic corneal implants using femtosecond laser technology are increasingly indicated as a safer and effective alternative to donor human corneal transplants [49].

6. CONCLUSIONS

Keratoconus is a progressive corneal disorder that severely affects patients' quality of life by impairing visual acuity and causing visual distortions. Research consistently shows that patients with keratoconus experience significant declines in various quality of life domains, including daily functioning, social engagement, occupational performance, and financial burdens associated with ongoing treatment. Symptoms such as decreased visual clarity, glare, and double vision reduce independence and complicate routine tasks like driving and reading, which negatively affect psychological well-being. Studies utilizing standardized questionnaires (e.g., NEI-VFQ-25, SF-36) demonstrate that as keratoconus severity increases, patients report worse physical and mental health status, with impaired social functioning and greater emotional distress. These challenges are exacerbated by the chronic and incurable nature of the disease, contributing to persistent stress and uncertainty about the future.

The psychological burden of keratoconus is substantial and multifaceted. A high prevalence of mental health disorders has been observed in this patient group, particularly depressive and anxiety symptoms. Research indicates that more than half of patients report signs of depression and anxiety, with some studies documenting comorbid diagnoses such as schizophrenia or bipolar disorder. The severity of keratoconus correlates with increased risk of psychiatric symptoms, and patients with pre-existing mental health conditions often experience worse vision-related quality of life. Depression in keratoconus patients not only results from visual impairment but also influences disease management negatively, as depressive symptoms reduce treatment adherence and engagement. Anxiety disorders manifest through avoidance behaviors, fears related to treatment costs, driving, or loss of independence. Personality dysfunctions and higher neuroticism levels have also been reported, highlighting dysfunctional coping mechanisms. Moreover, a potential association between keratoconus and attention deficit hyperactivity disorder (ADHD) suggests further complexity in neuropsychiatric comorbidities. Overall, emotional distress in keratoconus patients arises from the progressive vision loss and awareness of the disease’s chronic, incurable nature.

Several therapeutic options exist for managing keratoconus, each impacting patients’ quality of life and mental health differently. Non-invasive treatments such as customized rigid or hybrid contact lenses are commonly used due to their immediate vision correction benefits and positive psychological effects, including increased sociability and emotional well-being. However, lens intolerance may develop over time, requiring surgical alternatives. Corneal collagen cross-linking (CXL) is the gold standard for halting disease progression at early stages. While it does not improve vision directly, CXL stabilizes the cornea, which helps maintain quality of life and reduces anxiety associated with vision deterioration. Intracorneal ring segments (ICRS) are surgically implanted polymer rings that alter corneal shape, leading to improved visual acuity and psychosocial outcomes. Patient-reported improvements after ICRS include reduced dependency and better emotional health. Keratoplasty, including penetrating keratoplasty (PK) and deep anterior lamellar keratoplasty (DALK), is reserved for advanced cases with severe corneal thinning or opacity. While offering significant improvements in vision and quality of life, keratoplasty carries risks such as graft rejection, failure, and disease recurrence.

In conclusion, this comprehensive review highlights that therapeutic strategies for keratoconus not only aim to preserve or improve vision but also critically affect patients' psychosocial well-being and daily functioning. Non-invasive methods like contact lenses provide effective vision correction and positive psychological impact but may be limited by intolerance. Surgical interventions, including CXL, ICRS, and keratoplasty, offer stabilization or correction of the disease with varying degrees of invasiveness, risk, and quality of life outcomes. Continuous advancements in treatment modalities and individualized patient care are essential to optimize both visual and mental health outcomes for keratoconus patients.

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