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# PSYCHOLOGICAL ASPECTS OF OPHTHALMOLOGIC EXAMINATION IN CHILDREN AGED 0–6 YEARS: A LITERATURE REVIEW

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### Introduction

Early childhood (0–6 years) represents a critical period for visual system development. Timely ophthalmologic examination enables early detection of refractive errors, amblyopia, strabismus, congenital anomalies, and other ocular pathologies. However, diagnostic accuracy in this age group depends not only on clinical techniques but also on psychological and behavioral factors.

Although direct research on the influence of psychoemotional states on ophthalmologic parameters in children aged 0–6 years remains limited, evidence suggests that mental and emotional states can influence health indicators, including ocular findings, particularly in children with comorbid

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neurodevelopmental or psychiatric conditions [4]. Therefore, understanding psychological influences is essential for improving diagnostic quality in pediatric ophthalmology.

### Psychological Characteristics of Early and Preschool Children

Children aged 0–6 years demonstrate developmental characteristics that directly affect medical examinations. According to developmental screening tools such as the Denver Developmental Screening Test (DDST) [2], cognitive, speech, and motor skills evolve rapidly during this period. Limited verbal communication, fear of unfamiliar environments, separation anxiety, and difficulty understanding instructions can significantly complicate ophthalmologic assessments.

At this stage, emotional regulation is immature, and behavioral responses to stress may include crying, withdrawal, motor agitation, or refusal to cooperate. These reactions can distort subjective examination methods, including visual acuity testing and binocular vision assessment.

### Influence of Psychoemotional State on Ophthalmologic Indicators

While few studies specifically address psychoemotional influences on ophthalmologic parameters in young children, broader research indicates that stress and anxiety can alter physiological responses, including autonomic regulation and visual performance.

A retrospective study examining refractive errors and ocular findings in children with mental disorders demonstrated a higher prevalence of refractive abnormalities and ocular pathology compared to control groups [4]. Although causality cannot be established, these findings suggest an interaction between psychological status and ocular health.

Furthermore, cooperation-dependent procedures such as visual acuity testing, cover testing, fixation evaluation, and subjective refraction may be significantly

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influenced by a child's emotional state. Poor cooperation may lead to inaccurate measurements, false-positive findings, or underestimation of visual function.

### The Role of Parents in the Diagnostic Process

Parental presence and behavior during ophthalmologic examinations significantly influence a child's emotional stability [3]. Calm reassurance, supportive interaction, and clear explanations reduce anxiety and improve cooperation. Conversely, parental anxiety can heighten a child's stress response and complicate the diagnostic process [7-9]

Clinical recommendations emphasize preparing parents prior to the visit, explaining examination procedures, and encouraging positive communication strategies. Involving parents as active participants—while maintaining clinical control—creates a more predictable and secure environment for the child [3].

### Adaptive Methods and Approaches in Pediatric Ophthalmology

Modern pediatric ophthalmology incorporates developmentally adapted examination techniques. These include:

- Age-appropriate visual acuity tests (e.g., preferential looking tests, Lea symbols)
- Game-based fixation targets
- Stepwise procedural sequencing
- Short examination intervals
- Positive reinforcement techniques

Such strategies reduce stress and increase compliance, thereby improving the reliability of obtained data [3,4].

Interdisciplinary collaboration with psychologists, developmental specialists, or special educators may further optimize communication strategies, particularly in children with developmental delays or behavioral disorders.

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The American Academy of Pediatrics and the American Academy of Ophthalmology emphasize age-appropriate vision screening protocols and behavioral adaptation during pediatric eye examinations [5].

### Discussion

The reviewed literature indicates that psychological and behavioral factors significantly influence the quality and accuracy of ophthalmologic examinations in children aged 0–6 years. Although direct experimental data remain limited, indirect evidence strongly supports integrating psychological considerations into clinical practice.

Stress-related behaviors, parental influence, developmental immaturity, and comorbid mental conditions can all modify examination outcomes—especially when subjective testing methods are used.

Future research should focus on:

- Quantifying the impact of anxiety on visual acuity measurements;
- Evaluating behavioral preparation programs before ophthalmologic visits;
- Developing standardized stress-reduction protocols in pediatric eye clinics.

### Conclusion and Recommendations

Literature data confirm that psychological aspects are significant modifiers of diagnostic quality in pediatric ophthalmology [4–7].

### Recommendations

- Consider age-related psychological characteristics when planning examinations
- Structure the diagnostic process to minimize stress
- Use adaptive, visually engaging, and play-based techniques to enhance cooperation

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- Involve parents constructively in preparation and examination
- Collaborate with developmental specialists when necessary
- Follow evidence-based pediatric vision screening guidelines
- Incorporating these approaches enhances diagnostic reliability and improves the overall quality of ophthalmologic care for young children.

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