

# Pilot Training Report: Enhancing Early Detection of Amblyopia and Vision Problems by School Teachers in Jordan

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Uncorrected refractive errors and amblyopia remain leading causes of visual impairment among school-aged children globally, particularly in low- and middle-income countries (LMICs). While school-based vision screening programs have demonstrated effectiveness in identifying children with reduced visual acuity, they are often episodic and dependent on external outreach teams. This creates gaps in early detection, follow-up, and sustained monitoring.

Teachers represent a uniquely positioned workforce within schools, with daily contact with children and the ability to observe behavioral and functional indicators of vision problems. However, their role has traditionally been limited to facilitating screening logistics rather than actively participating in detection.

Building on previous school-based vision screening work conducted two years prior (Gammoh and Moore, 2024), this pilot initiative was designed to assess the feasibility of equipping teachers with the knowledge and skills necessary to identify early signs of amblyopia and other vision-related conditions. The training was held on March 12, 2026.

## Primary Objective

- To evaluate the feasibility and immediate outcomes of training school teachers to detect early signs of amblyopia and vision problems.

## Secondary Objectives

- To enhance teacher awareness of common pediatric eye conditions.
- To introduce practical, classroom-based observational techniques for early detection.
- To explore the potential for integrating teacher-led detection into school health systems.
- To inform the development of a scalable, system-wide training model for Jordan and similar LMIC contexts.



Image 1 Dr. Gammoh starting the training.

## Study Design

This was a pilot training intervention conducted in a school previously involved in a vision screening program (Gammoh and Moore, 2024), allowing for contextual continuity and baseline familiarity with eye health initiatives.



*Image 2 School teachers attending the training*

### **Participants**

- Total participants: 35 school teachers
- Teachers represented a range of grade levels and teaching experience.

### **Training Content**

The training session focused on:

- Basic eye anatomy and visual development
- Understanding amblyopia: causes, risk factors, and critical period

- Differentiating refractive error from amblyopia
- Observable classroom signs of vision problems, including:
  - Squinting, head tilting, or eye rubbing
  - Difficulty copying from the board
  - Reduced attention or academic performance
  - Closing one eye or abnormal head posture
- Simple teacher-administered screening approaches (non-diagnostic)
- Referral pathways and communication with parents
- Training Approach
  - Interactive lecture-based session
  - Case-based discussions
  - Visual demonstrations and examples
  - Question-and-answer engagement

### **Key Outcomes**

- Teacher Engagement
- High participation and strong engagement were observed throughout the session.
- Teachers demonstrated particular interest in practical signs they could observe in the classroom.

### **Knowledge Acquisition**

Teachers showed clear improvement in understanding:

- The difference between refractive errors and amblyopia
- The importance of early detection during the critical visual development period
- Their role as frontline observers rather than diagnosticians

## Feasibility

- The training was successfully delivered within a single session format.
- Teachers expressed willingness to integrate observational practices into their daily routines.

## Perceived Impact

- Teachers reported increased confidence in identifying children who may require referral.
- There was strong support for expanding the program to other schools.

This pilot demonstrates that school teachers can be effectively engaged as partners in early detection of amblyopia and vision problems. Moving beyond traditional vision screening models, this approach introduces a continuous detection mechanism embedded within the classroom environment.

This pilot provides a strong foundation for scaling teacher-based detection models across Jordan and beyond.

## Scale-Up Strategy

- Develop a standardized training curriculum aligned with national school health policies
- Integrate training into teacher professional development programs
- Collaborate with Ministries of Health and Education

## System Integration

- Establish clear referral pathways linking schools to primary eye care services
- Introduce simple teacher-friendly screening and observation tools
- Incorporate monitoring and evaluation frameworks

## Research and Evaluation

- Conduct larger multi-site studies to assess effectiveness
- Measure impact on:
  - Referral rates
  - Spectacle compliance
  - Early amblyopia detection outcomes

Prof. Gammoh envisions this model as a replicable framework for other VOSH chapters

- WHO-aligned school health programs
- LMIC eye health initiatives

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For further reading: Gammoh Y, Moore Bruce. **Vision screening and detection of ocular abnormalities in school children by teachers in Jordan**. 2024.

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