Psychological intervention for a person living with amblyopia: a case study from home-based integrated care

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Abstract
Amblyopia is a common developmental disability resulting in reduced visual acuity and gaze stability; it occurs in approximately 5% of the general population. Here, we present the case of an 18-year-old girl diagnosed with amblyopia. Subsequent to her diagnosis of amblyopia, she developed a depressive episode with co-morbid anxiety symptoms. She was treated with low intensity psychological intervention, Problem Management Plus, as home-based intervention. This intervention was associated both subjectively and objectively utilising psychometric measures (i.e. psychiatric interview, depression, anxiety and stress scale, general health questionnaire) with a significant amelioration of her mental state. This case provides preliminary evidence for the effectiveness of Problem Management Plus intervention and suggests that this intervention should be considered for other individuals with similar clinical presentations.

Keywords: Disability, amblyopia, low vision, Patient Management Plus.

DOI: 10.47391/JPMA.7304

Submission completion date: 07-07-2022
Acceptance date: 15-12-2022

Introduction
Amblyopia is a developmental disorder and a common cause of reduced visual acuity in one eye in children worldwide. The most common risk factors for development of amblyopia are anisometria (a difference in refraction prescription for glasses between two eyes) and strabismus (misalignment of visual axes). Amblyopia is associated with an imbalance of input into the brain from both eyes leading to deficits in visual acuity and gaze stability. Consequently, amblyopia can lead to reduced motor skills, poorer depth perception, and reduced functional ability with preclusion of some vocational pursuits such as piloting aeroplanes in adulthood. Amblyopia is also associated with significant psychological sequelae, including low self-esteem, a negative self-image, and, on occasion, depressive episodes. Indeed, visual impairment due to any cause is associated with higher rates of major depressive disorder, further reducing the quality of life and functionality for those affected. However, the delivery of evidence-based psychosocial support can improve disability and improve the individuals’ quality of life and independence. The World Health Organisation (WHO) has recommended low-intensity psychological intervention for individuals with visual impairment and associated depressive symptomatology, deliverable by members of a psychiatry mental health multi-disciplinary team.

Problem management plus (PM+) is one low intensity manualised psychological intervention designed for individuals diagnosed with depressive and anxiety disorders, and has been utilised effectively in a Pakistani population. PM+ is based on behavioural techniques with its’ intervention sessions relating to problem solving, stress management, behavioural activation, and accessing social support techniques. It is usually conducted in five sessions, which are approximately of one-hour duration and can be conducted by any trained person (i.e. community health worker, social worker). Consequently, in the current study we examined the effectiveness of a PM+ intervention for the amelioration of depressive symptoms that occurred secondary to a diagnosis of amblyopia.

Case Report
Ms AB, an 18-year-old student, was referred by her treating ophthalmologist to the psychiatry outpatient clinic, which specialises in supporting individuals with mental health difficulties at the community-based inclusive development (CBID) centre in November 2021, Aid to Leprosy Patients, Rawalpindi, Pakistan, due to the presence of depressive symptoms.

AB reported that she first became aware of her visual acuity difficulties, when she was six years of age. She required glasses for myopia from the age of six years, with
AB describes symptoms consistent with a depressive episode for approximately six months with anergia, reduced hedonic capacity and prominently depressed mood. Additionally, she described reduced concentration, self-confidence, and libido in recent months. Her symptoms are more prominent in the mornings. Her sleep pattern is consistent with early morning wakening and she has lost approximately 3kg over the last six months which she relates to a reduced appetite. She has no history of self-harm and denies suicidal ideation. She has no history of psychotic symptoms, such as delusions or perceptual abnormalities, including visual hallucinations (or illusions). She describes some associated anxiety symptoms which are not related to any fixed location or scenario and commenced after her depressive symptoms began. She demonstrated a good insight into her mental health difficulties and was happy for an appropriate intervention.

The outcome of PM+ intervention was associated with a significant amelioration in disability levels as measured with the WHO-DAS. In particular, an improvement was noted at the completion of PM+ intervention in the domains of problems solving, self-care, getting along, life activities, and participation, with further improvements noted 14 weeks later. Improvements in depressive anxiety and stress symptoms were noted.
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Vol. 73, No. 6, June 2023 Open Access
as similar effects were noted in individuals with
symptoms to an obvious underlying stressor (amblyopia)
techniques which was probably the scenario in this case.
individuals can continue to engage in practicing these
lady’s difficulties. After the intervention concludes,
accessing social support techniques appropriate for this
relating to anxiety management, problem solving, and
stressor (amblyopia), with the characteristics of PM+
episode due to long-standing amblyopia. This
18-year-old lady who was diagnosed with a depressive
improvement in a range of symptomatology in an
In this case we investigated if PM+ was associated with an
interaction with friends and relatives.
I felt some change in my life including mixing with people and increase in
and “I felt some change in my life including mixing with people and increase in
utilising the DASS with a further improvement noted at
the follow-up visit (Table 2).
AB herself noted that she was sleeping better (i.e. no early
morning wakening) and described greater concentration
levels for her course-work. She also noted that she was
more confident in herself and was less anxious with less
prominent physical symptoms of anxiety, though these
were occasionally present (i.e. occasional tremulousness
and nausea in social situations). Her symptoms continued
to ameliorate following the completion of the PM+
intervention with only negligible symptoms evident at
follow-up. She reported, “I found after the therapy sessions that I am
more confident about myself and less preoccupied about my poor eye-sight”
and “I felt some change in my life including mixing with people and increase in
interaction with friends and relatives.”

Discussion
In this case we investigated if PM+ was associated with an
improvement in a range of symptomatology in an
18-year-old lady who was diagnosed with a depressive
episode due to long-standing amblyopia. This
intervention was associated with a significant
amelioration in both depressive and anxiety symptoms
with these improvements maintained at 14-week follow-
up. Additionally, her overall functioning was improved
with greater sociability, community engagement, and
engagement in college work. The behavioural aspect of
this intervention was optimal for this patient given the
association of her symptoms to an obvious underlying
stressor (amblyopia), with the characteristics of PM+
relating to anxiety management, problem solving, and
accessing social support techniques appropriate for this
lady’s difficulties. After the intervention concludes,
individuals can continue to engage in practicing these
techniques which was probably the scenario in this case.
Community health workers observed improvement in her
symptoms to an obvious underlying stressor (amblyopia)
as similar effects were noted in individuals with
psychological distress.20 Moreover, the PM+ intervention
was noted to be user-friendly by health workers during

<table>
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WHODAS = WHO Disability Assessment Scale, DASS = Depression, Anxiety and Stress Scale

Conclusion
This case report demonstrates that PM+ is a potentially
effective psychological intervention for individuals
experiencing depressive and anxiety symptoms due to
amblyopia.

Recommendation: Randomised controlled trials (RCTs)
are recommended in future to more clearly delineate the
clinical efficacy of the PM+ in this patient cohort. The
establishment of an integrated management plan for
individuals diagnosed with amblyopia between
ophthalmologists and mental health professionals to
provide earlier access to psychological interventions is
additionally recommended.

Acknowledgments: We are thankful to the World Health
Organisation (WHO) for providing permission to use the
Problem management plus (PM+) manual. We are also
grateful to Aid to Leprosy Patients Rawalpindi-Pakistan
for their co-operation.

Disclaimer: This manuscript is a part of the author’s
research project titled, “Community Based Psychological
Intervention for Persons Living with Disabilities (CBPI-
PWD)”, approved by the Board of Advanced Studies and
Research (BASR) of the International Islamic University,
Islamabad, Pakistan.

Conflict of Interest: None.

Source of Funding: None.

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