



Impact of patching treatment on quality of life among children with amblyopia in Gaza Strip, Palestine

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ABSTRACT

Background: Eye patching treatment affects the health-related quality of life of children with amblyopia. However, the extent of this effect in Gazan children with amblyopia remains unknown. This study evaluated the effect of patching on the health-related quality of life in Gazan children with unilateral or bilateral refractive amblyopia.

Methods: This cross-sectional study was conducted at Gaza Ophthalmic Hospital, Gaza Strip, Palestine, from September 2019 to October 2020 with adherence to the standard operating procedures of the coronavirus pandemic. Children with refractive amblyopia who completed patching therapy with a successful outcome were recruited. After patching therapy was completed, the parents completed an 18-item parental Amblyopia Treatment Index (ATI) questionnaire via telephone.

Results: Twenty-four children having 36 eyes with refractive amblyopia and a mean (standard deviation) age of 7.6 (1.8) years were included. Children underwent 2 h or 2–6 h of daily patching for 12 or 17 weeks. The mean values for total ATI score, adverse effects subscale, difficulty with compliance subscale, and social stigma subscale were 2.6, 2.6, 2.7, and 2.9, respectively, indicating that part-time patching was mostly accepted and had less impact on health-related quality of life. Treatment compliance was high; children complained at the time of patch application but did not pay attention to the patch once it was in place. In most children, the patch caused no adverse effects related to physical activities such as fun activities, learning, writing or drawing, visualizing, or playing with toys. Social stigma due to patch complications or different perceptions was not a concern. However, the perceptions of others were a major concern (n = 19, 79.2%). No significant association was found between the overall ATI score or the score of any of the subscales (adverse effects, difficulty with compliance subscale, or social stigma) and the child's age, sex, number of lines improved in visual acuity of the amblyopic eye, severity of amblyopia, laterality, or treatment period (all $P > 0.05$).

Conclusions: The ATI questionnaire score and its three subscales revealed that the quality of life among Gazan children with refractive amblyopia was less affected by the part-time patching treatment. In the future, the ATI questionnaire could be used with various treatment modalities and types of amblyopia in the same setting to provide more practical guidelines on the management of amblyopia.

KEYWORDS


children, parent, amblyopias, health-related quality of life, hrqol, questionnaire, Gaza strip

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INTRODUCTION

Amblyopia is defined as a unilateral or, less commonly, bilateral reduction in the best-corrected visual acuity in the absence of any visual pathway or ocular pathology [1-3]. It is commonly caused by uncorrected refractive errors, strabismus, and visual deprivation. The pooled global prevalence of amblyopia is estimated to be 1.75% [4]. Meanwhile, the worldwide amblyopia-affected childhood population is approximately 1.3% to 3.6% [5]. The number of amblyopes was approximately 99.2 million in the year 2019, and the number will surge to 175.2 million by 2030 and 221.9 million by 2040 [6]. In a hospital-based study in Gaza, astigmatism was the most common cause of refractive amblyopia [7].

Amblyopia affects not only vision but also academic pursuits [8, 9]. A previous study suggested that reading speed in amblyopes decreases under binocular viewing [10]. Additionally, Webber et al. found that self-esteem in treated amblyopes was poorer than that of their unaffected peers [11]. Hence, to improve prognosis, the child's perception of patching and the impact of patching on the child's self-image must be addressed [12].

The functional impact of amblyopia is demonstrated in visual deficits, occupational choices, fine motor skills, and reading proficiency [9]. The psychological repercussions of amblyopia include feeling lonely and different from others, especially during the treatment application period [13]. Amblyopia treatment affects the quality of life of amblyopic children. Components of health-related quality of life (HRQoL) in patients with amblyopia have been investigated in many different studies [13-17]. The most remarkable HRQoL components in amblyopic patients include family life, social interactions, daily activities, feelings, and behavior [17]. However, these issues have not been clearly studied in Gazan children, including the impact of patching treatment and whether the problem is amblyopia itself or the treatment for amblyopia.

Many tools are available to evaluate the quality of life of patients with amblyopia, such as the Amblyopia Treatment Index (ATI) [18], the Amblyopia and Strabismus Questionnaire [16], and the Perceived Psychosocial Questionnaire [19]. The ATI is a questionnaire developed by the Pediatric Eye Disease Investigator Group (PEDIG) [18]. The ATI has been implemented in different circumstances and found to be effective and reliable in reporting the impact of patching on amblyopes [20-22]. The Parent ATI measures the effect of amblyopia treatment (patching or atropine) on children from the parents' perspectives [22]. Therefore, this questionnaire can be applied to assess the impact of patching treatment on children's HRQoL and to provide a better understanding to clinicians and therapists.

Hence, applying the ATI to examine amblyopic children's quality of life measures in the Gaza Strip is meaningful and necessary. This study evaluated the effect of patching treatment on the HRQoL of Gazan children with amblyopia.

METHODS

This cross-sectional study was conducted at Gaza Ophthalmic Hospital, Gaza Strip, Palestine, from September 2019 to October 2020, with adherence to the coronavirus pandemic standard operating procedures. This hospital has an independent unit for children's eye clinics encompassing strabismus, amblyopia, and binocular vision. Ethical permissions were obtained from the Department of Health Research and Human Resource Development, Ministry of Health, Gaza Strip, Palestine, the Palestinian Health Research Council, and the Secretariat for Research and Ethics, Universiti Kebangsaan Malaysia. Informed consent was obtained from the parents or guardians, and a patient information sheet was provided to them before enrollment. Participant involvement was fully voluntary, and the participants' identities were kept confidential by the observers. The participants had the right to withdraw from participation at any time if they felt uncomfortable or unable to complete the study.

The sampling frame included children aged 4 to 12 years with refractive amblyopia who were referred to the Gaza Ophthalmic Hospital, attended the eye clinic from September 2019 until October 2020, and were treated with patching. A consecutive sampling method was used [23]. We included the children with refractive amblyopia who completed patching therapy with a successful outcome [24] and parental willingness to participate and complete the questionnaire. The exclusion criteria were strabismic or stimulus deprivation amblyopia or amblyopia associated with ocular pathology, failure to complete patching therapy, and parental non-cooperation or refusal to participate. Parents of included children were invited to complete the 18-item parental ATI questionnaire after completion of patching treatment.

Children underwent baseline comprehensive optometry and ophthalmology examinations as detailed elsewhere [7]. Afterward, visual acuity assessment and refraction were repeated at each follow-up visit [7] if deemed necessary. We administered 2 h of daily patching, as recommended for mild and moderate amblyopia,

and 2–6 h of patching for severe amblyopia [3, 25-28]. Patching treatment was conducted at home and monitored by parents or guardians. During patching treatment, children were instructed to perform typical near-work tasks including drawing, coloring, reading, assembling small toys, and playing games on smart devices. To ensure compliance with the prescribed treatment, a logbook was provided to the children to record their own performance; therefore, we effectively tracked compliance with patching treatment. Additionally, a call was conducted once a week to ensure compliance, inquire as to any unexpected situations, and encourage the children to continue their good work.

For all children with refractive amblyopia who completed patching treatment and had a successful visual outcome, the parents were invited to complete the questionnaire. There are two types of ATI questionnaires; one is designed for patching treatment and the other for atropine treatment. In this study, the 18-item parental ATI questionnaire for patching treatment was used [21]. This questionnaire assesses the impacts of different aspects of amblyopia treatment on the child and family from the parent's perspectives [21]. The questionnaire consists of 18 items with 5-point Likert-type scales with responses of "strongly agree" (5), "agree" (4), "neither agree nor disagree" (3), "disagree" (2), "strongly disagree" (1), and "not applicable" (0). The questionnaire focuses on three relevant factors: adverse effects (8 items), compliance (5 items), and social stigma (3 items) [21]. To compute each subscale score, the items are summed.

Because of the ongoing pandemic home confinement, the questionnaire was administered to the parents via telephone call after providing verbal instructions about the survey. Consent was obtained during the telephone interview and also through the informed consent obtained at the beginning of the study. Responses were taken after completion of amblyopia treatment, and the questionnaire data were analyzed.

Statistical analysis was performed using the Statistical Package for the Social Sciences (version 22, SPSS Inc., IBM Corp., Armonk, NY, USA). Descriptive statistics are used to report demographic data of age and sex along with the clinical profile. In addition, means and standard deviations (SDs) or frequencies (percentages) are reported where applicable. To assess the normality assumption we used the histogram, Shapiro–Wilk test, and quantile-quantile plot (QQ plot). Spearman's rank correlation was used to evaluate correlations between the three subscales. The Mann–Whitney U test was used to compare baseline factors of two independent ATI score variables, and the Kruskal–Wallis test was used to compare baseline factors of three independent ATI score variables. A *P*-value < 0.05 was considered to indicate statistically significant differences.

RESULTS

Twenty-four children with refractive amblyopia completed the prescribed patching treatment with a successful outcome. The mean (SD) age was 7.6 (1.8) years, and most participants were girls (*n* = 16, 66.7%). Table 1 summarizes the characteristics of the recruited children.

For the patients who completed treatment, the questionnaires were collected from their parents. For 23 (95.8%) children, the mother was the respondent, and for one (4.2%) child the father responded. All respondents were the parent responsible for the patching application. None of the item responses was missing. Among all questionnaires, the "not applicable" choice was only selected for question 6a, because none of the children had a babysitter and school was being conducted online; therefore, question 6c was excluded from the analysis. The distribution of overall responses for each item is shown in Table 2. For item 15, 100% (*n* = 24) of the responses were congregated in the "strongly agree" or "agree" category. Moreover, for item 16, 95.8% (*n* = 23) of the responses were in the "strongly disagree" or "disagree" category (Table 2). Skin allergy, redness, or periocular skin irritation due to adhesive skin patching were reported by only three children (12.5%) during the treatment period. The allergy in one participant developed because of the type of patch used, while the remaining two cases were related to hygiene.

Children were provided a logbook to report their daily compliance as monitored by their parents. At the end of the treatment period, patient adherence was self-reported by parents to be 82.3% ± 15%. This percentage of compliance was determined subjectively and approximately, most children demonstrated high compliance with the treatment schedule. Among the ATI scores, five items (1, 5, 6a, 10, and 12) comprised the level of compliance with patching treatment, showing a mean score of 2.7 (Table 2).

The social stigma subscale consisted of three ATI items (11, 14, and 18), showing a mean score of 2.9 (Table 2). Moreover, equal numbers of parents were worried/not worried (11 parents for each) that their children felt different because of the applied patch (Table 2). However, 19 (79.2%) of them agreed that other children stared at their children (Table 2).

Table 1. Characteristics of the 24 recruited children with refractive amblyopia

Variable	Description	n (%)
Age (y)	4	0 (0.0)
	5	2 (8.3)
	6	6 (25.0)
	7	6 (25.0)
	8	3 (12.5)
	9	1 (4.2)
	10	5 (20.8)
	11	0 (0.0)
	12	1 (4.2)
Sex	Boys	8 (33.3)
	Girls	16 (66.7)
Laterality	Unilateral	12 (50.0)
	Bilateral	12 (50.0)
Severity of amblyopia (n = 36 eyes)	Severe	9 (25.0)
	Moderate	17 (47.2)
	Mild	10 (27.8)
Treatment period (w)	12	16 (66.7)
	17	8 (33.3)

Abbreviations: n, numbers; %, y, years; percentage; w, weeks. Note: Severity of amblyopia was based on visual acuity in the amblyopic eye [7]: mild amblyopia was 20/25 to 20/30, moderate amblyopia was 20/40 to 20/80, and severe amblyopia was 20/100 to 20/400.

In contrast, three ATI items (6b, 15, and 17) were not classified under any previous subscales. Only three (12.5%) reported that the patch caused an unstable relationship between the child and other family members. Two thirds (n = 16; 66.7%) tended not to forget to apply the patch to their children's eyes (Table 2).

Spearman's correlation test indicated no significant correlation between each pair of subscales: difficulty with compliance versus social stigma ($r = +0.24$; $P = 0.266$), difficulty with compliance versus adverse effects ($r = +0.09$; $P = 0.689$), and social stigma versus adverse effects ($r = +0.24$; $P = 0.264$).

No significant association was found between the total ATI score or the score of any of the subscales (adverse effects, difficulty with compliance, or social stigma) and the children's age, sex, number of lines improved in the visual acuity of the amblyopic eye, severity of amblyopia, laterality, or treatment period (all $P > 0.05$) (Table 3).

DISCUSSION

The mean scores of the ATI questionnaire and its three subscales revealed that the quality of life among Gazan children with refractive amblyopia was less affected by the administration of 2 h of patching for mild to moderate amblyopia and 2–6 h of patching for severe amblyopia.

The PEDIG developed the ATI questionnaire to evaluate the parents' perspectives of the impact of patching treatment on the child and the acceptance level of the treatment [18, 21, 22]. Furthermore, applying the ATI questionnaire to examine the impact of amblyopia treatment on HRQoL is highly recommended, as it covers many issues experienced by the child or parents [17]. From our analyses, 100% of the participants responded to the ATI questionnaires; the mother was the respondent for 23 (95.8%) children and the father responded for one (4.2%) child. This is perhaps due to the auditory mode of ATI administration via telephone [29]. Another possible reason for the high response rate is the coronavirus pandemic and online schooling, whereby the patching could be applied at home with supervision by the parents. Hence, this may have decreased the social stigma among children with refractive amblyopia treated by patching in our cohort.

We found that 62.5% (n = 15) of the participants showed reluctance to wear the patch at the beginning of the patching session. However, once the patch was applied, they did not pay attention to it and they were able to complete the session. Although 37.5% (n = 9) of children refused, fought, cried, or complained before

Table 2. The 18 scored items in the parental Amblyopia Treatment Index pertaining to patching treatment used in the current study

Contents		Strongly agree (5), n (%)	Agree (4), n (%)	Neither agree nor disagree (3), n (%)	Disagree (2), n (%)	Strongly disagree (1), n (%)	Mean
Items composing defined adverse effects subscale							
2	I worry that the patch may cause my child to miss out on fun activities	0 (0.0)	9 (37.5)	1 (4.2)	10 (41.7)	4 (16.7)	2.6
3	The patch affects my child's learning	1 (4.2)	5 (20.8)	3 (12.5)	10 (41.7)	5 (20.8)	2.5
4	The patch makes it hard for my child to play outside	6 (25.0)	10 (41.7)	2 (8.3)	5 (20.8)	1 (4.2)	3.6
7	The patch makes it difficult for my child to draw, colour, or write	1 (4.2)	4 (16.7)	0 (0.0)	15 (62.5)	4 (16.7)	2.3
8	I worry that the patch will cause my child to become injured	2 (8.3)	10 (41.7)	1 (4.2)	10 (41.7)	1 (4.2)	3.1
9*	My child can see well while using the patch	2 (8.3)	13 (54.2)	3 (12.5)	6 (25.0)	0 (0.0)	2.5
13	My child is clumsy when wearing the patch	1 (4.2)	4 (16.7)	1 (4.2)	11 (45.8)	7 (29.2)	2.2
16	The patch makes it difficult for my child to play with toys	1 (4.2)	0 (0.0)	0 (0.0)	20 (83.3)	3 (12.5)	2.0
Total score of subscale							2.6
Items composing defined treatment compliance subscale							
1*	My child does not seem to mind the patch	6 (25.0)	13 (54.2)	2 (8.3)	3 (12.5)	0 (0.0)	2.1
5	I have trouble applying the patch to my child	1 (4.2)	8 (33.3)	3 (12.5)	9 (37.5)	3 (12.5)	2.8
6 a	The patch is a source of tension or conflict with child	0 (0.0)	9 (37.5)	1 (4.2)	8 (33.3)	6 (25.0)	2.5
10	My child complains when it is time for the patch to be applied	4 (16.7)	11 (45.8)	2 (8.3)	4 (16.7)	3 (12.5)	3.4
12	I worry that my child is not getting enough patch time	2 (8.3)	9 (37.5)	0 (0.0)	8 (33.3)	5 (20.8)	2.8
Total score of subscale							2.7
Items composing the social stigma subscale							
11	My patch makes my child's eye or eyelids red or irritated	0 (0.0)	3 (12.5)	1 (4.2)	11 (45.8)	9 (37.7)	1.9
14	Other children stare at my child	6 (25.0)	13 (54.2)	0 (0.0)	5 (20.8)	0 (0.0)	3.8
18	I worry that my child feels different	1 (4.2)	10 (41.7)	2 (8.3)	10 (41.7)	1 (4.2)	3.0
Total score of subscale							2.9
Items not included in previously defined subscales							
6 b	The patch is source of tension or conflict with other family members	0 (0.0)	3 (12.5)	0 (0.0)	12 (50.0)	9 (37.5)	1.9
15*	I believe wearing the patch will improve my child's vision	13 (54.2)	11 (45.8)	0 (0.0)	0 (0.0)	0 (0.0)	1.5
17	Sometimes I forget to put the patch on my child	1 (4.2)	7 (29.2)	0 (0.0)	7 (29.2)	9 (37.5)	2.3

Abbreviations: n, number; %, percentage. **Note:** The “not applicable” response was not selected for item 6b in any case; The “not applicable” response was selected in all cases for item 6c, therefore, item 6c was removed; *Data for questions 1, 9, and 15 have been reversed based on the study of Holmes et al. [21].

wearing the patch, with encouragement and interesting sets of activities, these children accepted the patching treatment. Nevertheless, some parents in our study reported difficulty in getting their children to comply but were eventually able to do so. Parents also reported that patching treatment had no adverse effects related to physical activities. Most participants were able to participate in their usual fun activities and to learn, write, draw, play with toys, and see well while wearing the patch. This is consistent with the findings of van der Sterre et al. [30]. Furthermore, patching did not affect the mental status of children in our study, as most were aware and exhibited no awkward behavior according to their parents. Despite that, two thirds of the parents had concerns about their children getting injured during the patching session; thus, they prohibited outside playing to avoid any possible accidents. However, according to van der Sterre et al., children reported that they could play well with their peers, even though their parents thought otherwise [30].

Table 3. Association of patient factors with overall Amblyopia Treatment Index (ATI) questionnaire score and the three subscale scores

Patient's factor	P for total ATI score	P for adverse effects subscale	P for treatment compliance subscale	P for social stigma subscale
Age				
≤ 7 years (n = 14)	0.950	0.370	0.740	0.770
> 7 years (n = 10)				
Sex				
Girl (n = 16)	0.420	0.850	0.420	0.400
Boy (n = 8)				
Number of lines improved in the visual acuity of the amblyopic eye				
< 2 lines (n = 10)	0.230	0.370	0.560	0.500
≥ 2 lines (n = 14)				
Severity of amblyopia				
Severe (n = 6)	0.750	0.750	0.590	0.930
Moderate (n = 14)				
Mild (n = 4)				
Laterality				
Unilateral (n = 12)	0.253	0.348	0.824	0.589
Bilateral (n = 12)				
Treatment period				
12 weeks (n = 16)	0.560	0.270	0.280	> 0.99
17 weeks (n = 8)				

Abbreviations; ATI, Amblyopia Treatment Index, P, P-value; n, numbers. Note: All factors were tested using the Mann–Whitney U test, except for the severity of amblyopia, which was tested using the Kruskal–Wallis test (P-values were > 0.05 for all factors); Severity of amblyopia was based on visual acuity in the amblyopic eye [7]: mild amblyopia was 20/25 to 20/30, moderate amblyopia was 20/40 to 20/80, and severe amblyopia was 20/100 to 20/400.

Although our participants were supplied with adhesive skin patching, only three participants reported eye discomfort, irritation, or redness. Kim et al. used the ATI in their study to compare the adhesive patching with over-glasses patching [31]. They reported a significant difference in the item 11 score (“My patch makes my child’s eye or eyelids red or irritated”) between the types of patching and found symptoms to be worse for the adhesive type [31]. In our study, two of the participants ceased complaining when the patch type was changed. Social stigma related to patch complications and experiencing different perceptions were not a concern in our study, and this is consistent with the observations of van der Sterre et al. [30]. However, the perceptions of others were a major concern; teasing by “normal” children and others’ staring at the children who wear the patch were the most significant social stigmata reported among the participants. Similarly, Koklanis et al. found that the perceptions and responses of peers were of central significance to the amblyopia treatment experience, and this was predominantly related to the eye patch and glasses [13].

We found that all parents agreed on the statement “I believe wearing the patch will improve my child’s vision.” This was achieved because the parents initially received an explanation and demonstration of patching therapy and its advantages for refractive amblyopia. Hence, this motivated the parents [32] to ensure that their children completed the daily prescribed patching therapy sessions. All parents except one disagreed with the statement “The patch makes it difficult for the child to play with toys.” In the study of van der Sterre et al. [30], parents believed that their children were concerned with performing such tasks, whereas the children themselves were not concerned [30]. However, in the current study, most children had mild or moderate refractive amblyopia, which may not influence their daily near-vision tasks. These findings are supported by those of Chun and Lee [33], who observed that near vision in amblyopes was better than distant vision regardless of amblyopia type, age, and spherical equivalent [33]. Christoff et al. [34] found no difference between near and distance vision in children with moderate amblyopia [34]. These observed discrepancies may indicate variable visual performance due to individual differences, and future studies are necessary to verify this reasoning.

Using the ATI questionnaire, we found no significant differences between patient factors such as age, sex, lines of visual acuity improvement, severity of amblyopia, laterality, or patching therapy duration and the overall ATI score or those of the subscales of adverse effects, difficulties with compliance, and social stigma. A possible explanation is that 2 h of daily patching was administered for mild to moderate amblyopia (27 of 36 included eyes), which was mostly accepted by parents and their children. This is supported by the work of Repka et al. [25], who found that 6 h of patching had a higher social stigma than 2 h in children with amblyopia [25]. In contrast, Holmes et al. [26] found that the ATI score was well sustained in both full-time and 6-h patching, indicating that both treatment regimens were well tolerated [26]. However, they performed ATI after only 5 weeks of patching therapy [26], which was much shorter than the 12-week or 17-week duration of patching therapy in our study. As observed in the current study, Xu et al. [35] found that children with better initial visual acuity had less impact from patching than the others [35].

Treatment compliance was the factor most significantly affecting the success of treatment [36, 37]. Our study showed a high rate of compliance with patching (82.3%). Our findings are supported by previous studies in which the subjective percentages of compliance were 79.0% [31], 66.68% [38], and 48–68% when measured objectively using occlusion dose monitors [39, 40]. However, Wang [41] reported that the subjective compliance rate was 50–70% in a PEDIG clinical trial. Possible reasons behind our high compliance rate compared to that of previous studies [31, 38–41] are the provision of information on the importance of completing therapy, along with encouraging and keeping in touch with the participants and parents [32, 41]. Handa and Chia presented similar findings [42] and recommended encouraging parents and their amblyopic children and providing accurate information on the importance of patching therapy and its completion [42]. Another possible reason for the high compliance rate is the home confinement related to the coronavirus pandemic. School and outside activities were prohibited during our study; therefore, the children spent all their time at home, facilitating the parents' direct and continuous monitoring. Additionally, patching was supported with near-work activities [43], and we encouraged the children to play games on smartphones, complete their schoolwork, and attend online classes. However, Liu et al.'s study [44] on 5361 children with amblyopia found no significant differences in treatment compliance scores between the pre-pandemic and post-pandemic groups [44]. The percentage of compliance was determined subjectively in our study. A previous study [41] suggested that compliance rates may differ according to the method used in monitoring the treatment, such as the subjective assessment by parents or guardians or the objective evaluation using devices such as occlusion dose monitors. Nevertheless, the subjective approach was deemed to be limited. However, it was more consistent than the objective method when comparing the prescribed with the actual patching time [41].

Part-time patching therapy for refractive amblyopia featured high compliance and less impact among Gazan children. Therefore, we recommend implementing this regimen and updating the current amblyopia treatment protocol in the governmental hospital. Furthermore, more attention should be focused on the impact of patching on children's quality of life to avoid any compliance issues or dropout from a treatment program. The limitations of this study include the small sample size and the exclusion of children with treatment failure and other subtypes of amblyopia. In the future, the ATI questionnaire can be used in the same setting with various treatment modalities and types of amblyopia to provide more practical guidelines on the management of amblyopia.

CONCLUSIONS

The self-reported, subjective compliance rate for patching was high compared to that of other studies because of certain extraneous factors. In this study, the impact of patching on the child was less, from the parents' perspective. Only three children complained of eye discomfort or redness caused by the patch. All parents believed that patching would improve their children's vision. Most agreed that wearing the patch did not prevent their children from playing with toys. No significant association was found between patient factors and the overall ATI questionnaire score or the scores of the adverse effects, difficulty with compliance, and social stigma subscales. The ATI questionnaire score and its three subscales revealed that the quality of life among Gazan children with refractive amblyopia was less affected by the part-time patching treatment. In the future, the ATI questionnaire could be used with various treatment modalities and types of amblyopia in the same setting to provide more practical guidelines on the management of amblyopia.

ETHICAL DECLARATIONS

Ethical approval: Ethical permissions were obtained from the Department of Health Research and Human Resource Development, Ministry of Health, Gaza Strip, Palestine, the Palestinian Health Research Council, and the Secretariat for Research and Ethics, Universiti Kebangsaan Malaysia. Informed consent was obtained from the parents or guardians, and a patient information sheet was provided to them before enrollment. Participant involvement was fully voluntary, and the participants' identities were kept confidential by the observers. The participants had the right to withdraw from participation at any time if they felt uncomfortable or unable to complete the study.

Conflict of interests: None.

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