

CLINICAL SCIENCE

Why are there defaulters in eye health projects?

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INTRODUCTION

The lack of optical correction is the main cause of low vision and the second cause of blindness worldwide.¹ Although it is easily corrected, the optical correction problem is complex and depends on the following: suspected problem, demand, availability, access to medical assistance, acquisition and use of spectacles, and replacement in case of loss or damage.^{2,3}

In Brazil, 78.8% of the population depends on the public health system.⁴ Despite the great improvement over recent years, the Public Health System (SUS) still presents a low availability of specialized services, as well as difficulties with access to optical correction and related compliance conditions.⁴

When the public health system is poor, the communities' campaigns are a way to investigate a given problem's frequency, the existing coverage and the importance and enforceability of the solution. This increase in support is

useful to the managers and those involved in the public health area, as guidance for future actions. The campaigns are also a means to educate the population to adopt preventive actions and to demonstrate the acceptance rate of the proposed treatment.⁵

Brazil has a extensive experience in school-based community campaigns, which have been orchestrated since 1970s.⁶⁻¹² One of the problems related to these projects in several countries worldwide is the high level of absenteeism, which varies from 31.2 to 68.7%.¹¹⁻¹⁷ The main reasons provided by the parents or guardians to not attend the visit are: lack of guidance (day, time and place of the exam) from the school; financial difficulty in taking transportation to the locale of the exam; distance from the locale of the visit; not having someone else to look after other children; weather changes; preference to have a visit scheduled by his/her private medical practitioner; disease; trip; forgetfulness; lack of awareness of the importance of the ophthalmologic exam or denial of the child's low vision.^{7,12,13,17-20}

To reduce absenteeism, some campaigns in Brazil offer facilities such as: free transportation and exam dates on the weekend, so the parents do not need to lose a work day; a second chance for an exam and the performance of the exam close to the school area where the visual screening was performed.¹²

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PURPOSE

To identify the reasons for non-attendance at the community projects that offer transportation facilities, meal, free ophthalmological exams performed during the weekends, a second opportunity for examination and spectacle donation.

METHODS

The city of Guarulhos belongs to the metropolitan region of São Paulo (Brazil), located 17 km from the capital and is the 12th most populated city of the country. In Guarulhos, 97.9% of the children are enrolled in schools.²¹

A cross-sectional, descriptive study investigated students in grades 1-4 in elementary school in Guarulhos, who were submitted to visual acuity screening by trained teachers in 2006. Children were referred to complete ophthalmologic evaluation if they presented visual acuity equal to or less than 0.7 in at least one eye or with a visual difference between the eyes of two lines or more; presence of strabismus; asthenopia; or use of spectacles.²² The exam was scheduled for the weekends (Saturday and Sunday) in the student’s own municipality. Free transportation and meals were offered. The spectacles were donated and delivered to the schools. For students who were absent at the first call, a second chance for an exam was offered, at the same facilities.

A questionnaire, validated by an exploratory study and pre-tested in previous campaigns, was prepared. The following variables were studied:

- Personal characteristics of the students: gender, age (in years);
- Ophthalmological evaluation previously received by the student (yes/no), type of health service used (public, covenant, private);
- Reasons for absence at the ophthalmological exam (did not receive guidelines/transmittal guide; could not miss the day of work; child’s or family’s disease; other appointment; did not have someone else to look after the other children; recent or scheduled ophthalmological exam);
- Need of optical correction.

The instrument was applied through an interview with the parents or guardians who took his/her children to the second-chance exam.

This study was approved by the Investigational Review Board for Research Project Analysis of the Clinical Directory of Hospital das Clínicas and Faculdade de Medicina da Universidade de São Paulo/SP – Study Protocol n° 0557/07. Informed consent was obtained from each parent or guardian who participated in the study. The parents or guardians were informed that the not answering to the questionnaire would not affect the Campaign service.

RESULTS

Fifty-one thousand, five hundred and nine (51,509) students were screened, and 14.651 (28.4%) were referred for an ophthalmological exam. Among these patients, 8.683

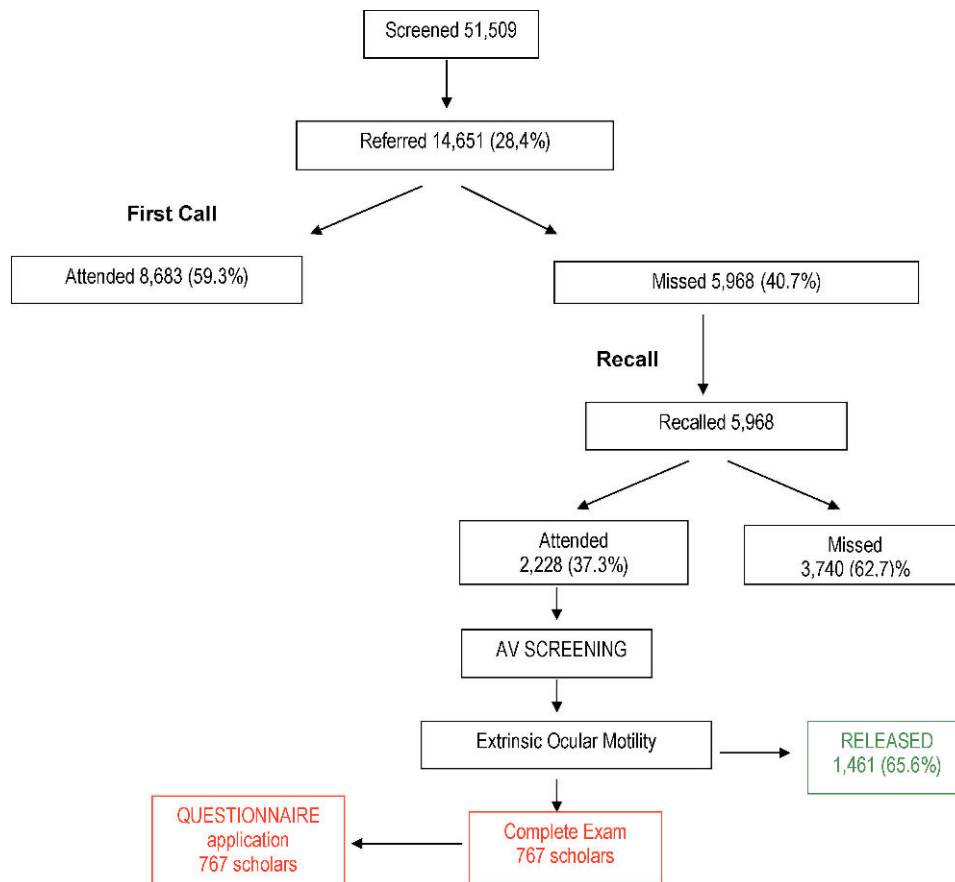


Figure 1 - Flow chart of the Eye-to-Eye Campaign attendance – Guarulhos 2006.

Table 1 - Coverage of ophthalmological service – Eye-to-Eye Campaign - Guarulhos, 2006 and 2007.

Call	Referred	Attended	Absenteeism %	Coverage %	Coverage increasing after recall%
Screened	-	51,509	-	-	-
First call	14,651	8,683	40.7	59.3	-
Recall	5,968	2,228	62.7	15.2	-
TOTAL	14,651	10,911	25.5	74.5	15.2

(59.3%) attended the first call. The 5,968 absent students were recalled, and 2,228 (37.3%) attended this second-chance exam (Figure 1). Among the 2,228 students who attended the second-chance exam, 1,461 (65.6%) were released during the screening period. The questionnaire was administered to 767 students who attended the second-chance exam and underwent the complete ophthalmological examination (Figure 1).

Among the students examined, 50.8% were female, with ages ranging from seven to ten years old.

For 461 students (60.1%), it was the first opportunity for an ophthalmological exam (Table 2). Among the 39.9% who had already submitted to an ophthalmological exam, 48.0% used the public health service (Table 2).

The reasons for not attending the exam are shown in Table 3.

The likelihood of a spectacle prescription at each appointment is described in Table 4.

The recall facilitated a 15.2% (59.3% to 74.5%) increase in campaign coverage. Overall, 10,911 students were examined; 74.5% of those were referred for the exam (Table 1).

DISCUSSION

Ophthalmological campaigns for students performed in the last 40 years in Brazil^{6,12} introduced children and their parents to facilities to increase the attendance. However, the projects still present a high percentage of absenteeism, which results in unnecessary costs and loss of exam opportunities for the children.

Even with the access to facilities, attendance during the weekends, free transportation, spectacle donation, and two opportunities for free exams, 25.5% of the parents did not take their children for the examination. Ultimately, 51,509 students were screened; 14,651 (28.4%) were referred for an ophthalmological exam and 59.3% (8,683) attended the first call. Of the 5,968 who missed the first call, only 37.3% (2,228) attended the recall. The recall increased overall attendance from 59.3% to 74.5% (15.2%) – Table 1. Regarding the

number of students who attended, the first call was, approximately, four times more efficient than the recall, although the cost for staging it was similar.

The main reason for non-attendance was lack of awareness or failure to receive the notice about the day and place where the exam would be performed (35.6%) – Table 3. Each school was in charge of this communication step. Similar study performed in São Paulo six years ago reported 53.7% absenteeism at the first call and 54.3% at the second call. It also identified failure to receive an orientation or transmittal guide as the main reason for the absence.¹³ This issue could easily be resolved with a referral letter, explaining that the child failed the school vision screening test, how the vision test was done and the importance of the follow-up eye examination. It is also important to confirm receipt of the letter and awareness of the information. However, a study performed in North Carolina, revealed that 35% did not attend exams, even after they had received the referral letter.²⁰ These findings show that interventions to improve follow-up on school vision screening referrals represent an important component of screening programs. It also calls attention to the need to reinforce the involvement of the teachers and directors at the school in the ocular health program, as well as the need to further develop the campaign’s logistic protocol.

In previous campaigns, difficulties related to transportation were also shown as an important limiting factor,^{13,18} however, the offering of free transportation and the performance of the exam close to the screening place did not influence the level of absenteeism (Table 3).

Even with the exam during the weekend, 20.6% of the parents reported that they did not attend the project because they could not miss work (Table 3); however, they were able to overcome the problem and attended the recall. These patients were probably encouraged by the results from students who attended the first examination.

The fact that 10.0% of the parents did not attend the exam due to other appointments (Table 3) indicates the

Table 2 - Previous ophthalmological evaluations of the students.

Previous ophthalmological exam		
	f	%
Previous ophthalmological exam	n = 767	
Yes	306	39.9
No	461	60.1
Service	n = 306	
Public Service	147	48.0
Covenant System	81	26.5
Private System	74	24.2
Do not remember	4	1.3

Table 3 - Reason for not attending the first appointment.

Reason for non-attendance	f	%
Did not know	273	35.6
Work	158	20.6
Disease	95	12.4
Other appointment	77	10.0
Forgot	48	6.3
Missed the time	39	5.1
Did not have anyone else to look after the other children	36	4.7
Think the child has good vision	18	2.3
Medical appointment scheduled	17	2.2
Bad weather	4	0.5
Lack of money	2	0.3
TOTAL	767	100.0

Table 4 - Percentage of spectacles prescribed at each appointment – Guarulhos 2006.

Spectacles	Appointment				Total		p-value
	First		Recall				
	n	%	n	%	n	%	
Yes	2,069	23.8	713	32.0	2,782	25.5	<0.001
No	6,614	76.2	1,515	68.0	8,129	74.5	
Total	8,683	100.0	2,228	100.0	10,911	100.0	

non-prioritization of the exam by the parents, even in cases when a visual problem was suspected by teachers. In a study conducted in São Paulo six years ago, 19.4% could not miss work; 8.5% did not have money for transportation and 9.0% missed the exams due to other appointments.¹³ It was noted that 83.9% of the reasons for missing the first call could have been avoided.

Similarly, in this study, the difficulties that justified absence at the first call were overcome for 87.1% of those who attended the recall. Only reasons related to disease (12.4%) and bad weather (0.5%) are insurmountable impediments that could justify absenteeism on the day of the exam. However, the absenteeism at the recall was much higher (62.7% at the recall and 49.7% at the first call) (Table 1).

Non-attendance at the first call was also not related to the optical correction needed, as the results showed that those who were absent had a higher frequency of visual problems (Table 4).

These findings confirm that there are additional barriers inhibiting follow-up after visual referral, as has been demonstrated by several studies.^{19,20,30}

The use of the health system involves not only availability and access, but also the behavior necessary to look for existing services.^{2,23} Other studies showed that, after suspicion of possible ocular problems based on visual acuity screening exam, several parents or guardians waited up to four years to book an exam.^{20,24}

Medical service barriers can be related to the user (lack of knowledge, fear, poverty, emotional difficulties, geographical distance, and cultural and behavioral aspects) and to the providers of these services (lack of motivation, training, material resources, and communication).^{19,20,25-30} The results of this study confirmed results of previous studies^{19,20,24,30} and support the hypothesis that there are multiple factors affecting follow-up compliance after failed school vision screenings. Parental reasons for not following up on referrals are complex and interventions must address multiple barriers.^{20,30}

Among the students screened due to suspicion of visual problems and who attended the second call, this campaign was the first opportunity for ophthalmological exam among 60.1% of the cases, which indicates insufficient coverage provided by the health system (Table 2). This condition should be considered by the health managers involved with ophthalmological services.

There is no consensus about the recommended age for the first ophthalmological exam. In some countries, it is recommended for patients between four and seven years old³¹ or is mandatory when registering the child in school.³²⁻³⁴ In Brazil, several attempts to institute this policy had little success.¹²

Considering the extent of existing ocular health coverage, the routine eye exam required at the time the child starts going to school becomes even more important, not only to detect refractive errors, but also due to its educational role within the community. It is necessary to educate the population regarding the importance of ophthalmological exams and the adoption of ocular health-promoting behaviors,³⁵ which would increase the attendance at campaigns and the patient-motivated search for health services. The perception of physical and mental health is one of the most significant human values. One study showed that a significant number of parents (29%) felt there was no need for a professional eye exam. Another 38% expressed lack of confidence in the screening results. These parents stated that they saw no signs of vision problems or that the child denied vision difficulties.³⁰

It is noted that, after six years, the rates and reasons for absenteeism are the same and remain unaddressed. The measures used to increase the attendance did not have detectable influence on the rate of absenteeism.

To increase attendance, restructuring of the campaigns is recommended, with emphasis on improved information-sharing, teacher involvement and community education regarding the importance of the exam. Optimal information-sharing could influence even the 25.5% of parents who did not take their children to the second-chance exam.

Aside from the technical-scientific studies, a reorientation of the research in the health area, including political-institutional aspects and assessment of the incorporation of new technologies, should be instituted. The promotion of strategic research is important to identify the priority areas that demand resource capitation and immediate application of the results. This study shows that restructuring of the campaigns could improve the efficiency of the campaigns (of attended students) by up to 15.2%.

CONCLUSION

A significant number of parents did not take their children for ophthalmological exams, even when facilities (free transportation, free exam performed over the weekend, spectacle donation, and second opportunity for exam) were offered. The main causes of absenteeism were lack of awareness and work. For 87.1% of the absenteeism cases, the difficulties could have been overcome via improved structuring of the first call. A recall increases attendance coverage of the target population by only 15.2% (59.3 to 74.5%). Notably, the eye exam campaign was the first exam for most of the absent students.

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