OCULAR DISABILITIES IN CANDIDATES FOR RECRUITMENT: AN ANALYSIS

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ABSTRACT

Analysis of recruit examination records of three years of the department of Ophthalmology of Command Hospital (SC) showed that of the 1579 candidates appearing for review, 558 (35.35%) were for defective colour perception, 366 (23.18%) were for squint assessment and 330 (20.9%) were for substandard vision. The initial examination of these candidates was done by a general duty medical officer whereas the review was done by an ophthalmologist. Almost two-thirds of these candidates appearing for review were found fit (985/1579 (68.39%)). Squint was the leading disability for which these candidates were found fit (315/985 (31.99%)) while defective colour perception with 274/594 (46.12%) headed the list of candidates found unfit.

MJAFI 1999; 55 : 339-341

KEY WORDS: Colour perception; Fit for recruitment; Squint; Substandard vision; Visual standards.

Introduction

Recruitment of a soldier in an Army is subject to medical fitness as per standards laid down [1], apart from other qualifications. Among these standards, the visual standards form a very important part with different standards laid down for different trades. After rejection at the recruiting centres, the candidates can appear for review by the concerned specialist as per the procedure [2] and most do so. A study of these various laid down parameters, the frequency of their referral and rejection rates of these candidates would give an understanding as to where to lay the stress in the eye check-up by people concerned with recruiting at all levels.

Material and Methods

An analysis was made from the recruit examination records of the department of Ophthalmology of Command Hospital (SC) from 01 Aug 95 to 31 Jul 98-a total of 03 years. These records have the particulars of the candidate, his registration number, the recruiting centre from where he was first examined, the findings of the ophthalmologists, his recommendation regarding the fitness and signature with date. The data was then analysed and tabulated.

Results

A total of 1579 recruits appeared for review after rejection at various recruiting centres during the 36 months period-an average of 44 cases per month. The commonest disabilities were defective colour perception (35.35%), squint (23.18%), substandard vision (20.9%) and pterygium (8.8%).

Of the total 1579 cases, 985 (62.39%) were found to be fit in the review ophthalmic examination. Among these, squint was the

commonest (31.99%), followed by defective colour perception (24.84%) and substandard vision (14.51%). The reverse was true in the unfit category wherein defective colour perception (46.15%) headed the list followed by substandard vision (31.48%) and then squint (8.59%) (Table-1). It would only indicate that there was a variation in the assessment of squint done by the recruiting medical officer and by the specialists.

1) Defective Colour Perception

The standards for colour perception [1] state that recruits who do not possess the minimum standards of CP III (defective safe) will be rejected except for certain trades like barber, sweeper, cook, mess waiter, syce, washerman and saddler. For CP III, recruits should be able to recognise white, signal red and signal green colours respectively as shown by Martin's lantern at 1.5 mts or read the requisite plates of Ishihara's Book/Tokyo Medical College Book.

Colour perception problems accounted for 555/1569 cases (35.35%), which is the common entity presenting at appeal (Table-1). Among these, 274/558 (49.10%) were found to be unfit i.e. they were CP IV. Of the remaining CP III accounted for 240/558 (43.01%). This means that of the 558 candidates appealing against colour perception, 514 (92.11%) were not CP II and hence the assessment of colour perception by the recruiting medical officers was more often correct.

2) Squint

Squint of any degree is a cause for rejection as per the standards [1]. Squint has accounted for the second highest attendance with 366 out of 1579 cases (23.18%). But only 51 out of these 366 cases (16.2%) were found to be unfit. In fact among the disabilities found fit, squint cases accounted for 31.99% (315/985). Since only one out of every six candidates for appeal for squint was found unfit, this would reflect upon the difficulty in the assessment of squint at the recruiting level.

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TABLE 1

List of parameters in which candidates were rejected

	Total no. of candidates*	No. of fit candidate*	No. of unfit candidate*	% of Unfit candidate
Defective Colour Perception	558 (35.35)	284 (28.84)	274 (46.12)	49.1
Squint	366 (23.18)	315 (31.99)	51 (8.59)	13.93
Substandard Vision	330 (20.90)	143 (14.51)	187 (31.48)	56.66
Pterygium	139 (8.80)	122 (12.39)	17 (2.86)	12.25
Corneal Opacity	61 (3.86)	39 (3.96)	22 (3.70)	36.06
Ptosis	25 (1.58)	18 (1.83)	7 (1.18)	28.0
Nystagmus	27 (1.70)	22 (2.23)	05 (2.53)	18.51
Anisocoria	21 (1.33)	6 (0.60)	15 (2.53)	71.42
Miscellaneous	52 (3.30)	36 (3.65)	16 (2.70)	30.76
	1579 (100)	985 (100)	594 (100)	

*Figures in the parenthesis show percentage

3) Substandard Vision

Visual acuity is the most important parameter for recruitment and in comparison to officer entry, the permission for wearing spectacles is limited to only Clerk, AEC, APS and DSC [3,4].

This parameter accounted for 330 out of 1579 cases (20.9%) of all appeals. Among these 330 candidates, 187 (56.66%) were found unfit. In fact this accounted for the maximum percentage of unfits. This is understandable as measurement of visual acuity does not pose that much of a difficulty. Only 27 of these (8.18%) were candidates of such trades wherein wearing of spectacles was permitted.

4) Pterygium

Pterygium is a parameter for rejection [1]. Pterygium accounted for 139/1579 of all appeals (8.80%). Of these, only 17 were found to be unfit (8.17%). Those cleared for this parameter were either having a pinguecula or no pterygium.

5) Corneal opacity

This accounted for 61 referrals (3.86%) with 22 among these being unfit (36.06%). Only one among these was a candidate who had an excimer laser surgery done. Any corneal surgery including laser surgery is an issue for rejection.

6) Anisocoria

This accounted for 21 of the appeals (1.33%). Significantly 15 of these 21(71.42%) were found to be unfit. It is a measure of creditable account on the part of the recruiting medical officers to detect anisocoria. Except in obvious cases of traumatic mydriasis it would be a catch-22 situation as far as the physiological anisocorias are concerned.

7) Miscellaneous

The miscellaneous category is a surprising lot both in those found fit and other wise (Table-2). The disability of interest in the fit category is the tremor of lids. Among the unfit category are the four cases of intraocular lens implantation which were referred as cases of substandard vision.

Discussion

The most common ophthalmic disabilities for which the recruiting medical officers rejected candidates at recruitment were squint, defective colour perception and substandard vision. A proper training to know and evaluate these parameters would lessen

TABLE 2

Miscellaneous causes for rejection

Fit	Unfit
Phlyctenular Conjunctivitis	1 Iris Coloboma 3
Vernal Conjunctivitis	1 Cataract 3
Acute Catarrhal Conjunctivitis	8 IOL 4
Bitot's Spots	11 Lateral Rectus Palsy 1
Episcleritis	1 Blepharitis 1
Arcus	1 Pars planitis 1
Exophthalmos	1 Conjunctival cyst 1
Chalazion	3 Herpetic Keratitis 1
Heterochromia	1 Limbal melanosis 1
Stye	1
Tremor lids	3
Naevus	3
Epiphora	1
Total	36 16

much of the problems encountered by the recruiting medical officers. Of these three major disabilities, it is squint which had the highest rate of fitness and hence a proper appraisal of this parameter is a requirement.

The easiest way to distinguish between apparent and true squint is by performing the cover test, which does not require any other article other than a torch light. However such assessment by the torch light does require some experience. All recruiting medical officers should be conversant with this method. However, instead of a general guideline as to any degree of squint, the stipulation of the range of heterophoria by Maddox Rod/Wing as for an officer entry would perhaps be a sounder guideline at all levels of recruitment, albeit more useful for the specialist.

Correct knowledge in the use of colour plates of Ishihara's book is the first step. The colour plates should be of good quality and the Ishihara's book should be frequently changed as the colours tend to

fade. Since the maximum requirement for the army is CP III, Martin's Lantern would in fact be a faster and surer way of distinguishing CP III from CP IV. A Martin's Lantern, which is quite an inexpensive apparatus can be supplied at every recruiting and eye centre.

Testing of visual acuity is usually done in the open under a tree. But using a shaded area with a self illuminated Snellen's chart would perhaps be a better method at the recruiting centres for better assessment of visual acuity.

Thus it can be assumed that a short training of a recruiting medical officer in the eye centre of a nearby service hospital can reduce the rate of referrals which would reduce the convenience to recruits and the work load of the hospital significantly.

Conclusion

Medical examination of the recruits for enrolment into the services is one of the most exacting duties a doctor in uniform is called upon to do, whether as a recruiting medical officer or as a specialist. As there is no room for error either way, there is a general tendency to play safe at every level. While enrolment of an unfit candidate is an avoidable hazard, the rejection

of a fit candidate is a loss to the service apart from denying a job to a needy person.

If one analyses the number of candidates who have been declared fit by the specialist after having been declared unfit by the recruiting medical officer, it appears as if the work-load of the recruiting team with a constraint of available time for examining a large number of candidates prompts it to reject a recruit with a minor and doubtful disability on many an occasion.

The desirable situation is one wherein the findings of the recruiting medical officer have minimal variation with that of the specialist. In order to achieve such a situation, a proper appreciation of the parameters, provision of necessary equipment and necessary training are required. As far as ophthalmic parameters are concerned, a correct appreciation of colour perception, squint and visual acuity is adequate enough as these account for the referral of 4 out of every 5 cases.

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