

Research Article

Profile of Ocular Disorders in the Military Staff in Parakou

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Abstract

Introduction: Eye conditions affect the military in its operations and can be an obstacle to the promotion of a soldier.

Purpose: To determine the eye conditions encountered among military staff in Parakou.

Patients and methods: This is an analytical and retrospective study. It was carried out in the ophthalmology department of the Parakou Army Training Hospital. It took place over a two year period, from June 15, 2012 to June 15, 2014. All files of military staff who were consulted during the period had been reviewed. Retired military staff had been excluded. The variable studied was the eye conditions encountered.

Results: One hundred and forty-seven military staff was examined during the study period. The male sex represented 84.35% of the study population. The average age of the patients was 37.17 ± 12.62 years. The 28-37 age groups represented 38.78%. The main eye diseases encountered were conjunctival pathologies (40.13%) dominated by conjunctivitis, ametropias (24.48%) dominated by myopia and then presbyopia (22.45%).

Conclusion: Eye conditions encountered among military staff are often benign. However, a periodic ophthalmological consultation will make it possible to diagnose the most serious pathologies in time and treat them properly.

Keywords: Ametropias; Conjunctivitis; Eye disorders; Military personnel; Presbyopia

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Introduction

Eye disorders affect the army in its functioning, through the temporary or permanent disability they cause. These conditions can constitute an obstacle to the promotion of a member and a reason for dismissal [1]. Eye morbidity among military staff is low [2]. This may be explained by the fact that many soldiers only consult when eye complaints severely constrain them in the performance of their duties [3].

Studies conducted among military staff have reported a high prevalence of eye diseases, ranging from 34.6 to 74.8 % [4, 5]. These eye disorders are dominated by refractive errors, kerato-conjunctivitis and eye trauma [4, 6, 7]. These studies have been conducted around the world and regionally. However, very few studies have been initiated in Benin on the subject. This justifies the present work, the objective of which is to determine the eye disorders encountered among military staff who was consulted at Parakou Army Training Hospital.

Patients and methods

It was an analytical and retrospective study. It took place over a two-year period, from 15 June 2012 to 15 June 2014. Its setting was the training hospital of Parakou's armies. Records of patients admitted to the ophthalmology department were identified. The sampling was exhaustive. All military files, all corps combined, posted in Parakou had been studied. Retired military had been excluded.

The variables studied were:

- Socio-demographic features of the military (age, gender)
- Clinical features (complaints, history, distance visual acuity)
- Eye disorders encountered.

The survey data were analyzed using Epi Info version 7 software. The comparison of frequencies or percentages was made with the Pearson Chi-2 test or the Fischer test, as the case may be. The difference was statistically significant for a p-value of less than 5%.

Results

Socio-demographic features of the military .One hundred and forty-seven patients were included in our study. The average age of the patients was 37.17 ± 12.62 years with extremes of 19 and 66 years. The 28-37 age groups accounted for 38.78% of patients (Table1).

	Number of employees (n)	Percentage (%)
Years		
18-27	35	23.81
28-37	57	38.78
38-47	15	10.2
48-57	26	17.69
58-67	14	9.52
Total	147	100

Table 1: Distribution of 147 soldiers by age.

As for sex, 84.35% of the patients were male with either a male to female sex ratio was 5.39.

Clinical features

Pruritus and decreased distance vision were the main complaints of patients with 23.13% (34 cases) and 22.45% (33 cases) respectively. They were followed by tearing (24 cases, or 16.33%), visual impairment (22 cases, or 14.97%), redness of the eyes (22 cases, or 14.97%) and eye pain (20 cases, or 13.61%).

The history found was in order of frequency, ametropia (6.12%), high blood pressure (5.44%), eye surgery (3.40%), chronic glaucoma (2.04%), eye trauma (1.36%) and diabetes (0.68%).

The majority of the soldiers examined had good distance vision (AV>7/10e): 75.51% for the right eye and 82.31% for the left eye (Figure 1).

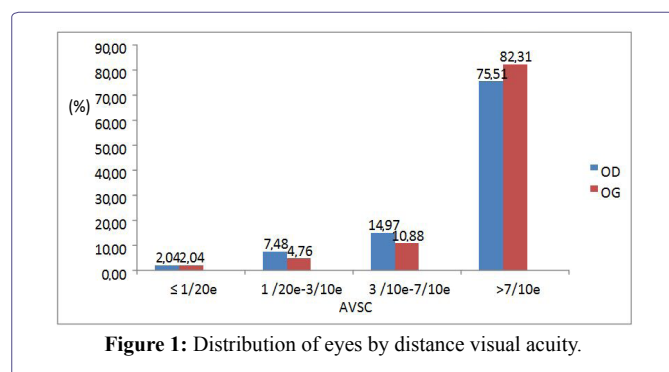


Figure 1: Distribution of eyes by distance visual acuity.

The main eye diseases encountered were conjunctival pathologies, ametropias and presbyopia with 40.13%, 24.48% and 22.45% respectively (Table 2).

	Number of employees	Percentage (%)
Conjunctival diseases	59	40.13
Ametropias	36	24.48
Presbyopia	33	22.45
Retinal pathology	12	8.16
Lens pathology	12	8.16
Eye injuries	11	7.48
Palpebral pathology	7	4.76
Ophthalmotonus pathology	6	4.08
Corneal pathology	3	2.04
Uveal pathology	3	2.04
Lagophthalmos	3	2.04
Vitreous pathology	1	0.68

Table 2: Synoptic presentation of eye conditions found among the 147-military staff.

Among conjunctival pathologies, conjunctivitis, especially allergic ones, represented 31.97%, followed by pterygium with 7.48% of cases.

All types of ametropias were found in varying proportions (myopia 10.20%, astigmatism 8.16% and hyperopia 6.12%).

Among the retinal pathologies, hypertensive retinopathy was found in eight (8) cases, or 5.44%.

Conjunctivitis and ametropias were more common in subjects aged 28 to 37 years with no statistically significant difference ($p>0.05$) as shown in table 3.

	18-27	28-37	38-47	48-57	58-67	p-value
Conjunctivitis	17(n)	16	4	8	2	0.13
Ametropias	6	13	5	8	4	0.65
Presbyopia	0	0	9	18	5	-
Cataract	0	0	0	7	6	-
Contusion	2	2	1	1	0	0.86

Table 3: Distribution of main nosological entities by age.

Women suffered more from conjunctivitis than men with a statistically significant difference ($p=0.001$) as shown in table 4.

	Male (%)	Female (%)	p-value (%)
Conjunctivitis	26.61	60.87	0.001
Ametropias	34.78	34.78	0.21
Presbyopia	22.58	21.74	0.92
Cataract	8.87	4.35	0.46
Contusion	6.45	0	0.21

Table 4: Distribution of main nosological entities by gender.

Discussion

Socio-demographic features of the military

The average age of the patients was 37.17 ± 12.62 years with extremes of 19 and 66 years. These results are similar to those of Eze BI et al., [4] in Nigeria in 2010, who found an average age of 36.6 ± 9 years and extremes of 19 and 63 years. On the other hand, Weichel ED et al., [8] had found an average age of 25 ± 7 years with extremes of 18 and 57 years. This difference could be related to the fact that Weichel's study was carried out on American soldiers sent on the liberation mission in Iraq and that they were mostly young. However, Koki G et al., [9] in 2015 in Cameroon had found slightly higher values with an average age of 40.6 ± 9.6 years with extremes of 21 and 70 years.

In this study, the male sex predominated with 84.35% of men versus 15.65% of women. These results are consistent with those of May F et al., [10] who had 83.9% male versus 16.1% female. They are similar to those of Eze BI et al., [4] who found 87.8% male and 12.2% female, and Vignal R et al., [7] who found 89.29% male and 10.71% female. Koki G et al., [9] had found a male predominance with a slightly lower prevalence than that found in this study, 76.5%. These results could be explained by the fact that in the army, there are more men than women.

Clinical features

The majority of our patients had a visual acuity far greater than 7/10th (75.51% for the right eye and 82.31% for the left eye). Some authors had found similar results. Thus Nowak and al. [6] had found visual acuity far greater than 7/10th (82.2% for the right eye and 81.2% for the left eye). For Eze BI et al., [4], 86.6% of military staff had a visual acuity of far more than 7/10th.

In contrast, Kikukawa A et al., [11] reported higher results than this study (94.1%); while Buckingham RS et al., [5] reported lower rates (64.7%). These differences in results could be explained by the fact that these studies were conducted in different army units and that the visual recruitment criteria may differ from one unit to another.

The main eye diseases diagnosed were conjunctivitis, particularly allergic (31.97%), ametropias (24.48%) with 10.20% myopia and presbyopia with 22.45%. Some authors have found different results. Thus Vignal R et al., [7] in Kabul in 2007 had found a predominance of ametropias with 29%, followed by conjunctivitis (28%). Eze BI et al., [4] in Nigeria had found 22% ametropias and 19.6% conjunctivitis. Vignal R et al., [12] in 2009, among French soldiers sent to Djibouti, 59.3% had found ametropias. Conjunctivitis were more frequent in this study because it was the soldiers who came to be consulted, and therefore had specific and embarrassing complaints. In addition, the context of dust and heat pollution would encourage the more frequent occurrence of this condition in our regions.

Conjunctivitis and ametropias were more common in subjects aged 28 to 37 years. This is only an observation. However, the high frequency of conjunctivitis in this age group could be explained by the fact that they are very active young subjects, and therefore more exposed to the elements.

Conjunctivitis was more common in women than in men. This could be understood by the low number of women in the sample.

Conclusion

From this study, it appears that all known eye conditions occur among military personnel. However, there was a predominance of conjunctivitis and ametropias. Given the discomfort and disability caused by these eye conditions, particularly among military personnel, it is important to reduce their frequency and improve their management by organizing periodic ophthalmological consultations.

Conflict of Interest

The authors declare that there is no conflict of interest related to this article.

References

1. Otto WC, Niebuhr DW, Powers TE, Krauss MR, Veigh FL, et al. (2006) Attrition of military enlistees with a medical waiver for myopia, 1999-2001. *Mil Med* 171: 1137-1141.
2. Sauvet F, Lebeau C, Foucher S, Flusain O, Jouanin JC, et al. (2009) Operational impact of health problems observed during a four-month military deployment in Ivory Coast. *Mil Med* 174: 921-928.
3. Buckingham RS, Duffie D, Withwell K, Lee RB (2003) Follow-up study on vision health readiness in the military. *Mil Med* 168: 789-791.
4. Eze BI, Okoye O, Hussain NA, Mba CN (2012) Population-based screening of ophthalmic disorders in a cohort of Nigerian Army personnel. *JR Army Med Corps* 158: 305-307.
5. Buckingham RS, Cornforth LL, Withwell KJ, Lee RB (2003) Visual acuity, optical, and eye health readiness in the military. *Mil Med* 168: 194-198.
6. Nowak MS, Jurowski P, Gos R, Smigielski J (2010) Ocular findings among young men: a 12-year prevalence study of military service in Poland. *Acta Ophthalmol* 88: 535-540.
7. Vignal R (2010) Activités d'ophtalmologie au groupement médico-chirurgical de Kaboul en 2007. *Médecine et armées* 38: 71-76.
8. Weichel ED, Colyer MH, Ludlow SE, Bower KS, Eiseman AS (2008) Combat ocular trauma visual outcomes during operations Iraqi and enduring freedom. *Ophthalmology* 115: 2235-2245.
9. Koki G, Nsoh CM, Epée E, Eballe AO, Bella LA, et al. (2015) Profil Des Affections Oculaires En Milieu Militaire Au Cameroun. *Rev SOAO* Pg no: 46-52.
10. Giraud J, May F, Swalduz B, Donard L, Froussart F, et al. (2011) Ophtalmologie de guerre, ophtalmologie de paix, bilan de quatre ans de mission des ophtalmologistes militaires français en Afghanistan : OPEX. *Médecine et armées* 39: 327-332.
11. Kikukawa A, Yaqura S, Akamatsu T (1999) A 25-year prospective study of visual acuity in the Japan Air self defense force personnel. *Aviat Space Environ Med* 70: 447-450.
12. Vignal R, Ollivier L (2011) Optical correction and quality of vision of the French soldiers stationed in the Republic of Djibouti in 2009. *Mil Med* 176: 327-331.



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