Visual impairment as a cause of retirement in the area of Botucatu, SP - Brazil

Erika Hoyama[1]
Silvana Artioli Schellini[2]
Maria Rosa Bet de Moraes-Silva[3]
Carlos Roberto Padovani[4]

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1 - Department of OFT/ORL/CCP School of Medicine of Botucatu - UNESP

2 - Professor, Department of OFT/ORL/CCP School of Medicine of Botucatu - UNESP

3 - Professor, Department of OFT/ORL/CCP School of Medicine of Botucatu - UNESP

4 - Professor, Department of Biological Statistic Institute of Biosciences UNESP

Address:
SILVANA ARTIOLI SCHELLINI
School of Medicine of Botucatu - UNESP
Cep: 18618-000
Botucatu - São Paulo
Brazil

e-mail:
btrcs@zaz.com.br

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ABSTRACT

The purpose of this study was to evaluate the retirement due to ophthalmologic diseases in the area of Botucatu, São Paulo, Brazil. Methods: this is a retrospective study of 1797 cases of retirement in which the sex, age, visual acuity and ocular causes of disability according with the International Diseases Code were evaluated. Results: 7.9% of the retirements occurred in behalf of ocular causes. There was significant male prevalence (P<0,0001) and ages between 40 to 60 years old (51.7%). The most frequent ocular diseases found were blindness and poor sight (45.4%), retinal diseases (14.7%), glaucoma and optic nerve affections (8.3%). Knowing the causes leading to ophthalmologic disability pensions could help to prevent blindness.

Key Words: ocular pathology, blindness, retirement, and visual disability.

INTRODUCTION

It is estimated that 30 to 40 million people around the world present visual acuity equal or inferior to 0.1(Moreira, 1991), being this one of the most important problems in developing countries, where blindness rates are 10 to 40 times superior to those reported for industrialized countries (Schweikart et al., 1991).

The World Health Organization (WHO) considers that most cases of blindness are preventable or relatively easy to cure (Romero, 1983).

In Brazil, there is no data on causes for retirement due to visual impairment. Taking into consideration that all cases of retirement are registered in the National Institute for Social Security (INSS), the study of such registers could be a way to understand which eye pathologies leads to labor incapacity, resulting in retirement.

Thus, the objective of this study is to describe the characteristics of individuals and the eye pathologies that resulted into retirement, based on data from the INSS files.

MATERIAL AND METHOD

It was conducted a retrospective study of 1797 forms from the archives of the National Institute for Social Security (INSS) in the municipality of Botucatu, accounting for the last 20 years of patient care in the mentioned place. Out of that, 143 forms (7.9%) consisted of patients retired due to eye problems.

In this connection, the clinical file of 143 cases were studied concerning age, sex, disease leading to retirement according to the International Code of Diseases (ICD-9), visual acuity (VA) regarding the best eye, time elapsed from the onset of the disease (DOD), date of stopping work (DSW), date of first payment of pension (DPP) and time elapsed from first pension payment to actual retirement due to impairment.

Data were described as frequency distributions and analyzed by tests of association involving Chi Square (Siegel & Castellan Jr., 1988). Discussion of results was made at a level of 5% of significance.

RESULTS

The 143 cases of retirement due to eye problems accounted for 7.9% of all retirements in the studied period (TABLE 1). Out of these, 100 (69.9%) individuals were male and 43 (30.1%), female (TABLE 2) showing an expressive participation of men in this regard (c^2 = 22,72; P<0.0001).

Age ranged from 19 to 66 years with a marked predominance (c^2 = 77,51; P<0.0001) of the age interval of 40 to 60 years (51.7%) (TABLE 3).

TABLE 4 shows that 84.6% of retirements presented corrected visual acuity, in the best eye, smaller or equal to 0.1; in 10.5% the visual acuity was greater than 0.1. Data were significant to low visual acuity (c^2 = 82,62; P<0.0001).

Main causes for impairment due to eye problems, according to the ICD-9, were blindness and subnormal vision (SNV) in 45.4% of cases; other retinal problems, 14.7%; glaucoma and alteration of the optical pathway or optical nerve, 8.3%. Other causes were: miscellaneous eye problems, 4.4%; retinal defects or detachment, 3.5%, among others (TABLE 5).

More frequent pathologies for main diagnosis were:

1) in the SNV group: blindness of one eye and SNV in the other (36.9%), sub normal vision in both eyes (35.4%), blindness of both eyes and loss of vision with no qualified cause in both eyes (10.8%), no specified loss of vision (6.1%);

2) in the group of retinal alterations: non specified (42.8%), diabetic retinopathy (23.8%), macular and posterior pole degeneration (14.3%), other alterations in the retina (9.5%); other simple pathologies of the retina and vascular alteration of the retina (4.8%);

3) in the glaucoma group: non-specific (66.7%), other glaucoma (25.0%), open angle glaucoma (8.3%);

4) in the group of nerve optic alterations: non-specific (50.0%), optic atrophy (41.7%) and other alteration in the optic disc (8.3%).

The mean time elapsed from DOD to DSW was 3.9 years; the mean time from DSW to DPP was 9.7 months and the mean time elapsed from DPP to the actual retirement was 1.3 years.

TABLE 1 - Distribution of causes of retirement according to the medical specialty

Cause by specialty	Frequency	
	Absolute	Relative (%)
Neurology	556	30.9
Cardiology	350	19.5
Psychiatry	221	12.3
Ophthalmology	143	7.9
Orthopedics	122	6.8
Vascular surgery	84	4.7
Gastroenterology	60	3.3
Infectious diseases	42	2.3
Others	219	12.3
TOTAL	1797	100.0

TABLE 2 - Distribution of retired patients by ophthalmologic affection according to sex.

Sex	Frequency	
	Absolute	Relative (%)
Female	43	30.1
Male	100	69.9
TOTAL	143	100.0

TABLE 3 - Distribution of retired patients by ophthalmologic affection according to age of retirement.

Age	Frequency	
	Absolute	Relative (%)
< 20	1	0.7
20-40	41	28.7
40-60	74	51.7
> 60	27	18.9
TOTAL	143	100.0

TABLE 4 - Distribution of retired patients by ophthalmologic affection according to better visual acuity with use of correction in the same eye.

Visual Acuity	Frequency	
	Absolute	Relative (%)
≤ 0.1	121	84.6
>0.1	15	10.5
not informed	7	4.9
TOTAL	143	100.0

TABLE 5 - Distribution of retired patients by ophthalmologic affection according to cause of retirement by the International Code of Diseases.

Cause of retirement	Frequency	
	Absolute	Relative (%)
Blindness and subnormal vision	65	45.4
Other retinal disorders	21	14.7
Glaucoma	12	8.3
Disorders of the nerve and the optical pathway	12	8.3
Other eye conditions	6	4.4
Defects and detachments	5	3.5
Cataract	5	3.5
Disturbs of vision	3	2.1
Other disorders of the eyelids	3	2.1
Strabismus	3	2.1
Disorders of the lachrymal apparatus	2	1.4
Keratitis	2	1.4
Disorders of the eye ball	1	0.7
Disorders of refraction and accommodation	1	0.7
Disorders of the conjunctiva	1	0.7
Disorders of the orbit	1	0.7
TOTAL	143	100.0

DISCUSSION

Despite the fact that the archives of INSS contain important information that could be used to investigate the causes of retirement due to impairments, taking as reference the classification of retirements among various medical specialties, there are no studies in Brazil covering this subject.

The archives are based in specific forms and codification of diseases that standardize the information that could be drawn out. However, pathologies are grouped in a very generic way, making it impossible in most cases to arrive to the final diagnoses. In other cases, there is lack of information due to incomplete filling of forms.

Retirements due to eye problems are the forth among other medical specialties (7.9%) being surpassed only by neurological causes (30.9%), heart diseases (19.5%) and psychiatric disorders (12.3%). Similar studies conducted in Santiago (Chile) have also demonstrated 7.9% of retirements due to ophthalmologic problems (Schweikart et al., 1991).

Males were prevalent (69.9%) in the age group ranging from 40 to 60 years (51.7%), economically actives and, in general, responsible for the family earning. Similar data were reported by Schweikart et al. (1991).

Circa 84.6% of retired individuals presented vision in the best eye with correction, worse or equal to 0.1 according to the Snellen chart, what is recognized as blindness by WHO (Rocha, 1987).

According to CID-9, main causes for impairment due to ophthalmologic causes were: blindness and subnormal vision (SNV), retinal pathologies, glaucoma and disorders of the optical pathway or the optical disc. In Chile, main causes were complex myopia, trauma and sequels, glaucoma, diabetic retinopathy, detachment of retina; atrophy of the optical disc was in 9th among cause of impairment in the mentioned country (Schweikart et al., 1991).

Most common diagnoses in the present study, blindness and SNV (45.4%) are generic terms that may by used in many ocular pathologies. This makes the identification of the basic cause that led to the process of visual impairment difficult.

In most cases, regarding retinal disorders, the pathology was not mentioned leading to some possibility of failure in the classification. Even though, following the non-specific retinal pathologies, it was observed that diabetic retinopathy (23.8%) and macular and posterior pole degeneration were two out of the three major causes of blindness in adults together with glaucoma (Rocha, 1987).

Glaucoma was the third eye pathology more prevalent as cause for retirement due to impairment associated to disorders of the optical disc. In this group, the type of glaucoma was not specified in an important number of cases. This again shows the difficulty for a correct classification of the various ophthalmologic diagnoses.

Among the four main causes of impairment due to eye problems, both diabetic retinopathy and glaucoma are in the group of those preventable ophthalmologic diseases (Rodrigues, 1989).

The mean time elapsed from the onset of the disease till the date when effectively the patients have stopped working was 3 years and 9 months. The time elapse from this to the first payment of pension was 9 months. The mean time to ascertain the permanent impairment was around 1 year and 3 months. It was a long time between the accident and the retirement in the majority of cases, which is inadequate for the patient and to the company that has to pay the pension and, many times, do not replace the employee since the situation of the employee is not fully clear. Retrospective studies with documents filled by many persons may not have all the necessary information. Nomination of pathologies may not be homogeneous. Furthermore, the International Classification of Diseases (CID-9) adopted by the INSS and all governmental offices, should be reviewed in terms of a better accuracy on diagnosis since many diagnosis are grouped under a same entry such as " retinal disorders" or " disorders of the lachrymal ducts". Even though, despite some data are vague and with no specification of the disease that lead to blindness, but only the site of the lesion in the eye, studies of this sort could help in the determination of preventive measures. If data were available in a national basis, it would be possible to know the prevalence of blindness associated to retirement in Brazil.

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