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Primary Open-Angle Glaucoma Patients in the Ophthalmology Outpatient Clinic Dr. Soetomo General Academic Hospital, Surabaya, in 2013–2015

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ABSTRACT

Introduction: Primary open-angle glaucoma (POAG) is a progressive, chronic optic neuropathy characterized by distinct optic nerve atrophy and impairment of the visual field. The purpose of this study was to describe the characteristics of primary open-angle glaucoma patients in the ophthalmology outpatient clinic of Dr. Soetomo General Academic Hospital, Surabaya, in 2013–2015.

Methods: This was a descriptive-retrospective study. Samples were patients with a primary open-angle glaucoma (POAG) diagnosis in the ophthalmology outpatient clinic at Dr. Soetomo General Academic Hospital, Surabaya, in 2013–2015.

Results: There were 88 samples of POAG patients in the ophthalmology outpatient clinic at Dr. Soetomo General Academic Hospital, Surabaya, in 2013–2015. POAG was dominated in the age group 60–69 years old, with a percentage of 37.50%. Males were more dominant than females, with a percentage of 55.70%. Many POAG patients were unemployed, with a percentage of 56.82%. Most patients with POAG did not have a history of hypertension or diabetes mellitus, with a percentage of 73.86%. Patients who had a history of hypertension were 11.36%, those with diabetes mellitus were 9.09%, and those who had a history of both hypertension and diabetes mellitus were 5.68%.

Conclusion: POAG was a higher risk in older adults, with males being more dominant than females. Most patients did not have a history of either hypertension or diabetes mellitus.

Highlights:
1. POAG is a common type of glaucoma.
2. POAG patients were predominantly >60 years old, with males being more dominant than females.

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Introduction

There are several types of glaucoma, namely glaucoma with primary and secondary open angles, glaucoma with primary and secondary closed angles, and congenital glaucoma.[1] Primary open-angle glaucoma (POAG) can be an optic neuropathy characterized by degeneration of retinal ganglion cells and elevated intraocular pressure (IOP). POAG can remain asymptomatic until it becomes severe. Therefore, many people lack awareness of POAG. Most studies reported an association between age and gender with POAG.

Over 60 million people worldwide are estimated with glaucomatous optic neuropathy, of which 8.4 million are blind.[2] POAG is a common type of glaucoma worldwide. Hence, it becomes the second leading cause of irreversible blindness after cataracts.[3] Age is one of the main risk factors for POAG, followed by gender, occupation, and systemic disease.[4] This study aimed to describe the characteristics of POAG patients in the ophthalmology outpatient clinic Dr. Soetomo General Academic Hospital, Surabaya, in 2013–2015.

Methods

This was a retrospective descriptive design study. This study was conducted at the ophthalmology outpatient clinic Dr. Soetomo General Academic Hospital, Surabaya, from September 2013–2015. The population in this study was medical records of all patients with a diagnosis of glaucoma in the ophthalmology outpatient clinic Dr. Soetomo General Academic Hospital, Surabaya. The sample in this study was medical records of patients diagnosed by POAG in the ophthalmology outpatient clinic Dr. Soetomo General Academic Hospital, Surabaya. The sample was selected using the total sampling method. The variables in this study included age, gender, and occupation.

The inclusion criteria in this study were patients older than 40 with complete medical records data. The exclusion criteria in this study were medical records with incomplete data. Data were analyzed descriptively and presented in tables.

Results

Based on the results of the study, the number of patients with POAG in the ophthalmology outpatient clinic Dr. Soetomo General Academic Hospital, Surabaya, in 2013-2015 was 107 patients. 19 medical records were excluded due to incomplete data. Thus, the number of subjects in this study was 88 patients. The distribution of age, gender, and occupation of POAG are shown in Table 1. It shows that most of the patients were in the age group 60–69 (37.50%) and were dominated by males. According to the occupation of the patients, most (56.82%) patients were unemployment, followed by private employee (17.05%) and government employee (13.64%).

Table 1. Distribution of age, gender, and occupation in POAG patients

Variable	Frequency (f = 88)	Percentage (%)
Age (years old)		
40–49	12	13.63
50–59	29	32.95
60–69	33	37.50
70–79	13	14.77
≥80	1	1.13
Gender		
Female	49	44.30
Male	39	55.70
Occupation		
Unemployment	50	56.82
Government employees	12	13.64
Private employees	15	17.05
Enterpreneur	5	5.68
Farmer	5	5.68
Merchant	1	1.14

Source: Research data, processed

Discussion

A study by Vijaya, *et al*. (2014) found a risk that increased four times in the age group older than 60 years old compared to the age of 40-60 years old.[5] The results are in line with this study. Most of the patients were in the age group 60–69 years old (37.50%). A study by Riva, *et al*. (2018) stated that older age is associated with more severe visual function loss.[6] It is due to POAG being a chronic and asymptomatic disease.[6] In this study, males (55.70%) dominated female patients. The results of this study are similar to a study by Musch, *et al*. (2012), which found cases of POAG dominated by males, namely 303 patients (61.90%) of a total of 505 patients.[7] In contrast, Sun, *et al*. (2011) found cases of POAG dominated by females (55.04%).[8] Vajaranant, *et al*. (2010) stated that the possibility of females developing POAG is greater than males because there is a relationship between women with sex hormones which can provide an effect on protecting the optic nerve.[9]

Most POAG patients were unemployed. The results of this study are in line with the study by Kim, *et al*. (2016), where a total of 710 POAG patients were found, 329 of whom were unemployed (40.8%).[10] The underlying reason is the lack of awareness of this disease. Patients tend to ignore the initial signs obtained from POAG and turn up in a condition of high IOP.[5]

Strength and Limitations

This study showed the characteristics of POAG patients. It can be used as a comparison for future POAG studies. The limitation of this study was the lack of data on patients' medical records.

Conclusion

POAG was a higher risk in older age, with males being more dominant than females. Most of POAG patients were unemployed.

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Conflict of Interest
The authors declared there is no conflict of interest.

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Ethical Clearance
This study had received ethical clearance from the Ethical Committee of Dr. Soetomo General Academic Hospital, Surabaya (No. 0055/KEPK/II/2018).

Authors' Contributions
Designing the study and creating the manuscript: RPR. Collecting data: RPR. Performing data result: RPR. Supervising results and discussion: RPR, IW, DRI. All authors contributed and approved the final version of the manuscript.

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