

# The implementation of community services of glaucoma counseling in citra medika hospital of sidoarjo

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**COMMUNITY SERVICES REPORT**

## The implementation of community services of glaucoma counseling in citra medika hospital of sidoarjo

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**ABSTRACT**

**Background:** Glaucoma is a disease attributed to damage to the optic nerve, resulting in decreased visual field and vision function. Glaucoma's main risk factor is the increment of intraocular pressure due to an imbalance of aqueous humor production and secretion. If this condition goes untreated, it will lead to retinal ganglion cell degeneration. These cells are part of the central nervous system, which has cell bodies in the retinal layer and axons in the optic nerve. These cells' degeneration causes cupping, which is the appearance of the optic disc and vision loss. Glaucoma's cause has yet to be identified, and not all factors that cause its progression have been found.

**Objectives:** This community dedication was written to access society's knowledge about glaucoma. **Methods:** This project entailed counseling the community around Citra Medika Hospital, Sidoarjo. This community service was conducted by co-assistant members of the Faculty of Medicine, Hang Tuah University, Surabaya. It aimed to provide participants with an understanding of glaucoma, including its types, risk factors, and preventive measures. **Discussion:** The participants in this community outreach were the individuals waiting for their relatives at the eye outpatient installation at Citra Medika Hospital, Sidoarjo. In total, 30% of the participants were male and 70% were female. **Conclusion:** This community service is expected to increase public awareness of glaucoma. As a result, they may then carry out examinations when they encounter glaucoma-related symptoms.



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**Highlights**

1. Glaucoma leads to the loss of vision irreversibly, with the prevalent of 0.46% in Indonesia.
2. Most of the participants still didn't know about glaucoma.  
The society should be educated about glaucoma so as not misinterpreted with cataract.



## BACKGROUND

The eyes are human organs with the main function of giving visual information to the brain. One of the possible sight impairments is glaucoma (Sumbara et al., 2020), which leads to irreversible loss of vision (Schuster et al., 2020). Glaucoma has been found in 0.46% of Indonesians, which means it is prevalent in 4-5 in every 1,000 persons (Angriani et al., 2022). In Europe, glaucoma is more prevalent in men than women (Schuster et al., 2020), possibly due to it being asymptomatic (Weinreb et al., 2014).

Glaucoma is a disease caused by nerve damage to the eyes. It results in the narrowing of the visual field and loss of visual functions (Schellack, 2015). There are two types of glaucoma: acute and chronic. Acute glaucoma signs include red eyes, sore eyes radiating to the head, slightly cloudy corneas, vomiting and nausea (at a very high intraocular pressure), and a sudden decrease of vision, particularly in one eye. Chronic glaucoma causes damage to the optical nerve and progressive visual field loss. It is associated with risk factors, especially increased intraocular pressure. Chronic glaucoma's signs and symptoms include decreased vision, frequent headaches, sore eyes, and no nausea or vomiting (Khaw et al., 2004).

It is important to increase knowledge of glaucoma's risks and consequences. An outreach activity was done on the topic of glaucoma definitions, types, symptoms, and prevention through screening examinations. Then, a question-and-answer session was held, which aimed to gauge the public's understanding of glaucoma. This community service was done to raise awareness of glaucoma and decreasing its threat by detecting it as early as possible.

## OBJECTIVE

This community service was reported to access the society knowledge about glaucoma.

## DISCUSSION

### Type of Community Service

The community service used the participatory learning and action (PLA) method as counseling for the community around the Citra Medika Hospital, Sidoarjo about the importance of screening and understanding glaucoma's signs and symptoms.

### Community Service Sessions

Community service activities were carried out by the doctor's co-assistant at the Faculty of Medicine, Hang Tuah University in Citra Medika Hospital, Sidoarjo on September 21<sup>st</sup>, 2021. The doctor's co-assistant first explained the definition of glaucoma, then the types of glaucoma, the risk factors for glaucoma, and finally the measures that can be taken to prevent glaucoma.

### Definition of Glaucoma

The participants of this community service were the individuals waiting for their relatives at the eye outpatient installation at Citra Medika Hospital, Sidoarjo. The participants' characteristics are summarized in **Table 1**.

**Table 1.** Participant's characteristics of community dedication (n=20)

| Participant's characteristics | n=20 | %  |
|-------------------------------|------|----|
| Sex                           |      |    |
| - Male                        | 6    | 30 |
| - Female                      | 14   | 70 |
| The participant's knowledge   |      |    |
| - Very good                   | 2    | 10 |
| - Good                        | 0    | 0  |
| - Passable                    | 0    | 0  |
| - Less                        | 18   | 90 |
| - Very less                   | 0    | 0  |



### Glaucoma Risk Factors

The second activity involved explaining glaucoma's risk factors, including:

1. A family history of glaucoma
2. Degenerative diseases such as diabetes and hypertension
3. High pressure in eyes
4. Previous accidents or eye surgery
5. Migraines
6. Narrowing of the blood vessels in the brain (Angriani et al., 2022).

### Glaucoma Prevention

The third activity involved explaining glaucoma prevention through early detection, including:

1. Screening before the age of 40 and repeating every 2-4 years
2. Repeated screening every 2 years after the age of 40
3. For those with a family history of glaucoma, screening must be done every year (Indonesian Ministry of Health Center for Data and Information, 2019).

### Medical Application

The fourth activity was medical application for every participant's condition with a question-and-answer session (QnA), in which the participants asked questions to the instructors (co-assistant). This session is summarized in **table 2**.

**Table 2.** Summarized of QnA session (n=20)

| Participant               | n=20 | %  |
|---------------------------|------|----|
| - Asking the question     | 2    | 20 |
| - Not asking the question | 8    | 80 |

The community service by the co-assistant of Hang Tuah University at Citra Medika Hospital showed that the participants were uninformed about glaucoma. After the counselling session, most of the participants began to understand the condition and became wary of it. The counselling session showed that society should be educated about glaucoma in order to avoid confusing it with cataracts. The lack of knowledge in society about glaucoma is in line with another study conducted by Jember University with 5,548 subjects, in which 70% of them had only heard about glaucoma and only 22% had an understanding of glaucoma (Siswoyo et al., 2018). This community service had limitations in that there was a small number of participants and limited time for every session.

### Limitations

This community dedication did not assess the possibility risk of glaucoma, such as history of glaucoma in the family or type 2 diabetes mellitus.

### CONCLUSION

Glaucoma is the leading cause of irreversible vision loss worldwide. By holding outreach programs to the public regarding glaucoma, it is hoped that the community will understand glaucoma, be able to prevent it, and have a high level of awareness for early detection and treatment by screening.

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### Conflict of Interest

All authors have no conflict of interest.

### Funding

None.

### Legal Permission

This community service was permitted by the Director of Citra Medica Hospital, Sidoarjo with approval number 068/DIR/IX/2021 on September 20<sup>th</sup>, 2021.

### Author Contribution

All the authors have contributed to all process in this research, including preparation, data gathering and analysis, drafting and approval for publication of this manuscript.

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