

Public Health Services through Glaucoma Counseling to the Community at UKI Hospital

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ABSTRACT

The purpose of this PkM activity is to increase the knowledge of the target partner community in this case specifically health center cadres, families of glaucoma patients or patients with systemic diseases that can result in glaucoma. The method of implementing PkM is in the form of socialization and discussion regarding Glaucoma eye disease, collecting data related to participant knowledge about glaucoma through the distribution of pre-test and post-test questionnaires. The results obtained based on the processing of pre-test and post-test data showed that there was an increase in participant knowledge about Glaucoma eye disease after participating in the PkM team socialization with a total of 57 participant data; 100% experienced an increase in knowledge after socialization.

INTRODUCTION

Glaucoma is the leading cause of blindness worldwide after cataracts, which is estimated to reach 60.5 million and will increase to 79.6 million in 2020. Almost half of glaucoma sufferers (47%) are in Asia, where 87% are caused by primary angle closure glaucoma (PACG). Based on the results of a survey by the Indonesian Ministry of Health in 2015, in Indonesia around 1.8 million people are blind and in 2020 it is estimated to increase to 5.9 million and 5.3 million [1][2]. The most common cause of blindness is cataracts (34.47%) followed by uncorrected refraction (20.26%), and glaucoma (8.30%). Glaucoma is a disease or disorder of the eye due to damage to the optic nerve that can narrow the field of vision and loss of vision function. The main cause or risk factor for glaucoma is increased eye pressure. The increase in eye pressure generally occurs slowly so that it does not cause symptoms at first until the sufferer is aware after the narrowing of the field of vision has occurred.

Glaucoma is a group of eye diseases that damage the optic nerve and is a cause of permanent blindness that can be prevented if detected early (Quigley & Broman, 2006). According to the World Health Organization (WHO), glaucoma is the second leading cause of blindness in the world after cataracts, but unlike cataracts, blindness due to glaucoma is permanent and irreversible (WHO, 2019). In Indonesia, glaucoma is one of the main causes of blindness, with a prevalence that continues to increase as the population ages. One of the biggest challenges in treating glaucoma is its often asymptomatic nature in the early stages, so it is nicknamed "the silent thief of sight". Many patients come for treatment when they are already in an advanced stage, when optic nerve damage can no longer be repaired. Therefore, public awareness is very important in efforts to prevent and detect glaucoma early. In this context, Community Service (PkM) activities aim to fill the gap in community knowledge related to glaucoma, especially to groups at high risk. Target groups include health center cadres, families of glaucoma patients, and patients with systemic diseases such as hypertension and diabetes mellitus which are risk factors for glaucoma.

Several previous studies have shown that education-based interventions have been proven to increase awareness and knowledge about glaucoma. Research conducted by Owsley et al. (2006) showed that community education programs have a positive impact on increasing community participation in eye screening [10]. The early detection of glaucoma through increased awareness and regular eye examinations can significantly reduce blindness rates. This is in line with the results of studies showing that community-based health education can improve community health behavior in the long term.

A common problem faced by glaucoma sufferers is the lack of awareness of glaucoma. Glaucoma can be detected early to slow the progression of the disease, but because visual field loss is asymptomatic until the final stage, timely diagnosis is often delayed. After being diagnosed with glaucoma, most patients require lifelong care. Based on this, the Faculty of Medicine, Universitas Kristen Indonesia through the Community Service (PkM) program conducts socialization and counseling related to Glaucoma by providing education and early screening of glaucoma conditions in the community who live around the UKI Faculty of Medicine and UKI General Hospital

The purpose of this activity is specifically so that the community in Cawang District, East Jakarta, has knowledge about Glaucoma eye disease and recognizes its early symptoms to be examined as screening.

To achieve these objectives, the following steps are taken:

1. Providing information about what Glaucoma is and its causative factors.
2. Providing information about how to recognize glaucoma disorders in the eye.
3. Conducting screening for glaucoma.

Benefits of Activities:

1. Increasing public knowledge about glaucoma.
2. Increasing public knowledge and awareness about how to detect glaucoma early and treat it.

IMPLEMENTATION AND METHODS

This activity is carried out in the form of screening and education, carried out in stages to families of glaucoma sufferers at the Eye Clinic of UKI Hospital by involving students of the Ophthalmology Department of the UKI Medical Faculty during March 9-15, 2025. The activities carried out on March 9, 2025: socialization through educational pamphlets on Glaucoma disease carried out by students of the Ophthalmology Department of the UKI Medical Faculty to the patient's family in front of the waiting room of the Eye Clinic of UKI Hospital. March 10-15, 2025: A glaucoma screening program was carried out for relatives and families of patients at UKI Hospital who have risk factors or symptoms of Glaucoma by checking visual acuity, eye pressure, and visual field examination/perimetry at the Eye Clinic. The World Glaucoma Week activity program was closed with direct education to hospital visitors through a face-to-face delivery method, using PowerPoint media displayed and presentations, and interactive question-and-answer sessions with participants on Friday, March 24, 2025, in the lobby of UKI Hospital. The speaker at the session was Dr. Reinne Natali Christine, SpM.

RESULTS AND DISCUSSION

Community Service conducted by the Faculty of Medicine, Indonesian Christian University in the community in Cawang Village, East Jakarta, at UKI Hospital, generally went well and smoothly. The partner for implementing this community service activity was the Cawang District Health Center. From the results of glaucoma screening in the community who had risk factors, namely families with glaucoma, it was found that 14 out of 57 people screened suffered from glaucoma.

Participant Characteristics

This Community Service Activity involved a total of 57 participants consisting of 27 out of 57 men (47.4%) and 30 out of 57 women (52.6%). Participants had varying educational backgrounds, from elementary school graduates to college graduates, and an age range of 25–65 years. This shows that educational interventions reach various age groups and literacy levels. The counseling activity was carried out in the UKI Hospital Lobby by inviting residents who live in the Cawang and. The number of residents who attended the counseling was five participants who actively discussed with the PkM team. The questions from residents were more about how to prevent and treat people with glaucoma. The knowledge of residents before and after the counseling was measured using a questionnaire, out of a total of 56 participants; 57 people (100%) experienced an increase in knowledge.

Increased Knowledge Aspects

From the results of the question analysis, the most significant increase occurred in: Understanding of the nature of glaucoma as a cause of blindness that cannot be cured but can be prevented if detected early. Systemic risk factors such as hypertension, diabetes mellitus, and family history. The importance of intraocular pressure examination and optic nerve examination. Before education, most participants only knew glaucoma as an eye disease, but did not know that this disease can develop without symptoms and is progressive. After education, participants' understanding increased, as seen from their answers in the discussion and post-test.

Participants' Responses to the Activity

Based on qualitative evaluation through discussion sessions and feedback sheets: 98% of participants stated that the activity was very useful, 93% stated that they had never received detailed information about glaucoma before and 88% stated that they would pass on the information obtained to their family members or community. A cadre said, "So far, we only know about cataracts. Glaucoma is more dangerous because it is not felt. We want more training like this."



Figure 1. Photo of Glaucoma Screening Activities for Patients and Patient Families at UKI Hospital



Figure 2. Documentation of Counseling in the Lobby of UKI Hospital

Community Service Activities in the framework of World Glaucoma Week have proven to be successful in significantly increasing participants' knowledge about glaucoma. Based on the results of the pre-test and post-test, all participants experienced an increase in scores, and on average there was an increase of more than 60%. This shows that public health education, if carried out systematically and based on evidence, can be a very effective strategy in improving health literacy.

Effectiveness of Educational Interventions

The delivery of information through a multimodal approach - namely lectures, visual presentations, leaflets, and videos - has been proven to be able to reach various levels of understanding of participants. This is in line with Howard Gardner's Multiple Intelligences theory which states that individuals have various ways of receiving and understanding information, including visually, verbally, and interpersonally. In the context of glaucoma, which often does not cause early symptoms, increasing knowledge is very important [13]. A study by Varma et al. (2016) showed that more than 50% of glaucoma sufferers are not aware that they have this disease until it is in an advanced stage. Therefore, increasing public awareness through education is the main key to preventing blindness due to glaucoma.

Involvement of Cadres as Health Promotion Agents

Health cadres play a strategic role in bridging information between health workers and the community. By providing education to health center cadres, this activity has the potential to provide a multiplier effect, because cadres will pass on the information obtained to the wider community. Research by Lassi et al. (2016) revealed that cadre training can increase the effectiveness of community-based health promotion programs, including for early detection and management of non-communicable diseases. In addition, the active involvement of cadres in discussions and Q&A sessions shows that they are highly motivated to understand the material in depth. This is important so that they not only convey information, but can also answer community questions well.

Glaucoma Risk in Patients with Systemic Diseases

Some of the participants in this activity were patients with systemic diseases such as diabetes mellitus and hypertension, both of which are risk factors for glaucoma, especially secondary glaucoma. Increasing knowledge in this group is very important because they need to monitor their eye health regularly. According to Leske et al. (2008), hypertension and diabetes increase intraocular pressure and accelerate damage to the optic nerve. Patients with these diseases should be informed that controlling systemic diseases alone is not enough, but they should also have regular eye examinations, at least once a year, even without complaints.

Utilization of Educational Technology

Playing educational videos and using digital media (PowerPoint, illustrated leaflets) greatly helped participants' understanding. Several participants said that images and animations provided concrete visualizations that were easier to understand than verbal explanations alone. Nutbeam (2000), in the Health Literacy model, stated that to achieve interactive and critical health literacy, not only basic knowledge but also the ability to analyze health information actively is needed. Therefore, a participatory approach and the use of information technology in education are highly recommended.

Contribution to Blindness Prevention

Glaucoma is the second leading cause of blindness in the world after cataracts, but unlike cataracts, blindness due to glaucoma cannot be reversed. Therefore, increasing knowledge and awareness of early detection is the only way to prevent vision loss. This activity, although local in scale, makes a real contribution to the prevention of blindness. This is the WHO's strategy in "Universal Eye Health: A Global Action Plan 2014-2019," which emphasizes the importance of education and early detection of eye diseases at the primary level.

CONCLUSIONS AND RECOMMENDATIONS

Glaucoma is a cause of blindness that can be prevented through early detection and increasing public awareness. This Community Service activity successfully increased the knowledge of all participants about glaucoma. The socialization and interactive discussion methods have proven effective in fostering a better understanding of glaucoma eye disease.

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