

The Relationship of The Level of Family Knowledge with Compliance with Medication in Glaucoma Clients at Poli Rumah Eye Undaan Surabaya

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ABSTRACT

Glaucoma is the second largest cause of blindness after cataract. Blindness due to glaucoma is irreversible. However, blindness in patients due to glaucoma can be prevented by increasing patient compliance in drug use. This research was using an observational analytic study with a cross-sectional study approach. The research respondents were 50 glaucoma patients who were undergoing treatment and fulfilling the inclusion criteria at Eye Hospital of Undaan Surabaya. Data collected in this study are primary data. Data was collected by interviewing with a closed questionnaire guide. Statistical tests performed were validity, reliability, and Spearman correlation tests. Result A significant relationship was obtained between knowledge and adherence to treatment ($p=0,000$). Strong statistical relationship of 0.728 range of values between variables including the strong category (0,6 – 0,8), and the direction of correlation is positive which means the higher the level of knowledge, the impact on the higher level of treatment adherence.

Keywords: Knowledge Level, Medical Adherence, Glaucoma.

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INTRODUCTION

Glaucoma is possible disease _ damage optic nerve or nerve eyes . In glaucoma, there will be a decrease in visual function in the form of narrowing of the field of view, anatomical damage in the form of excavation and degeneration of the optic nerve. Glaucoma is caused by increased eye pressure or what is usually called intra-ocular pressure. This increase in intra-ocular pressure can be caused by increased production of eye fluid or aqueous humor, by the ciliary body or due to obstruction of the release of aqueous humor in the eye chambers (Ilyas & Yulianti, 2014). Glaucoma is the second most common cause of blindness in the world after cataracts. In the case of glaucoma, the blindness that occurs is irreversible or cannot be returned to its original condition (Ministry of Health, 2015). According to Tham et al, in 2020 it is estimated that as many as 76 million people in the world will be diagnosed with glaucoma and this figure is expected to increase to 118 million sufferers in 2040.

The prevalence of glaucoma increases with age and this increase has a greater effect on some races such as Africans and Asians. In the Japanese population, around 5% of people over 40 years of age experience glaucoma (Tham et al, 2014). In Southeast Asia, in 2015 552,556 new cases of glaucoma were discovered. In 2017, there were 80,548 new glaucoma cases out of a total of 427,091 glaucoma cases obtained from data from visits to 2 outpatient hospitals in Indonesia (Ministry of Health, 2019). This means that there has been an increase in cases of 30% when compared to data in 2016 (Ministry of Health, 2019). Based on data from outpatient visits at the Undaan Eye Hospital, Surabaya in the period January 2021 to January 2022, there were 4,246 glaucoma cases. From this data, 30.33% of glaucoma cases that occurred were new cases. At the same time, glaucoma cases also required special treatment, requiring sufferers to undergo inpatient treatment. A total of 480 patients from the total number of cases had to be hospitalized at the Undaan Eye Hospital, Surabaya.

Glaucoma is divided into four types, namely primary glaucoma, secondary glaucoma, congenital glaucoma and absolute glaucoma. Primary glaucoma is further divided into two classifications, namely primary open-angle glaucoma and primary closed-angle glaucoma. Primary open angle glaucoma (POAG) is more common than primary angle closed glaucoma (Stamper et al, 2013). Primary open-angle glaucoma causes asymptomatic progressive bilateral visual field narrowing that develops slowly. In most cases, sufferers do not feel any significant symptoms before losing visual function. This is one of the risk factors for not detecting glaucoma in sufferers, which causes delays in diagnosis and treatment. Primary angle closure glaucoma is more common in Asians. This is because the anatomy of the eye chambers of Asian people tends to be shallow. Primary angle closure glaucoma or PACG more than 3 often causes the onset of complaints and symptoms such as decreased visual function and pain. PACG sufferers with this onset can be diagnosed and treated more quickly compared to POAG sufferers.

Glaucoma is characterized by increased intra-ocular pressure, optic nerve papillary atrophy, and narrowing of the visual field (Ilyas & Yulianti, 2014). Normal eyeballs have a pressure of around 10-20 mmHg, whereas in glaucoma sufferers the intra-ocular pressure increases higher than normal and can even reach 50-60 mmHg in an acute glaucoma attack. This increase in intra-ocular pressure causes pressure on the optic nerve. Continuous increases in intra-ocular pressure will cause more severe damage to the optic nerve (Ministry of Kerker, 2015). The main treatment for glaucoma is to control intra-ocular pressure within normal limits or reduce intra-ocular pressure. Glaucoma management aims to reduce the symptoms that occur. One of the symptoms that can be treated with glaucoma therapy is increased intra-ocular pressure.

Glaucoma therapy is generally divided into two, namely medical therapy and operative therapy. Medicamentous therapy is given by providing therapy in the form of topical or systemic drugs. This drug therapy is often called antiglaucoma therapy. Furthermore, operative therapy for glaucoma can be carried out using several techniques, namely trabeculectomy, iridectomy, canaloplasty and finally the destructive cyclo procedure. 4 Medical therapy or antiglaucoma therapy consists of several groups including beta blockers, ephinephrine derivatives, carbonic anhydrase inhibitors, alpha agonists and prostaglandin

analogues. These drugs work through several mechanisms to control eye pressure within normal limits. Alpha agonist drugs and prostaglandin analogues play a role in reducing intraocular pressure through the mechanism of increasing aqueous humor output. Examples of this type of medication are epinephrine and latanoprost. Apart from increasing the release of aqueous humor, reducing intra-ocular pressure can be achieved by reducing the secretion of aqueous humor by the ciliary body. Beta blocker and diuretic drugs such as timolol maleate and acetazolamide play a role in this mechanism.

Glaucoma management using antiglaucoma drug therapy can last a lifetime. Glaucoma sufferers must continue to maintain their intra-ocular pressure to maintain their visual function. Controlling intra-ocular pressure using anti-glaucoma drugs requires sufferers to comply with every treatment. Decreased medication compliance in glaucoma sufferers is a glaucoma management issue that is of much concern. Glaucoma sufferers need routine treatment every day, not even at one time. Some glaucoma sufferers also have to use more than one type of medication to maintain intra-ocular pressure within normal limits. Adherence is the ability of a patient or sufferer to carry out treatment or behavioral therapy in accordance with the advice of a doctor or other person (Chaidar et al, 2016). Compliance with treatment is 5 important aspects in the management of chronic diseases.

Glaucoma is a chronic disease whose treatment requires compliance with treatment. Poor adherence to therapy causes continuous increases in morbidity, mortality and costs. In the case of glaucoma, poor compliance is associated with progressive decline or reduction in visual function. Research conducted by Skath et al, found that less than 80% of glaucoma sufferers who were non-compliant with treatment experienced severe visual field problems. The current study defines that compliance can be said to be good if the level of compliance of glaucoma sufferers in using drops reaches more than 80% (Kolli et al, 2020). Developing interventions to increase medication adherence in glaucoma sufferers is an important research target. Treatment compliance in glaucoma sufferers is very important to achieve a successful treatment process.

Treatment compliance can be influenced by three factors, namely predisposing factors, enabling factors and reinforcing factors. Predisposing factors are factors that precede a person's behavior that encourage them to act, such as knowledge, attitudes, beliefs, values and perceptions. Enabling factors or supporting factors are factors that support individuals to take action in the form of the physical environment, availability of facilities and health advice and so on. Reinforcing factors include the attitudes and support of families, health service providers and decision makers. Knowledge, attitudes, beliefs and so on are predisposing factors that can influence compliance (Kamidah, 2015). Knowledge occurs after someone senses an object with the result of knowing. Sensing occurs through the five senses, namely the sense of smell, the sense of hearing, the sense of touch, the sense of sight and the sense of feeling.

Most human knowledge is obtained through the sense of hearing and the sense of sight (Notoatmodjo, 2012). Adherence to the use of therapy by glaucoma sufferers is influenced by the level of knowledge which will have an impact on a person's ability to prevent complications that occur due to glaucoma. Knowledge has a predictive ability towards

something as a result of recognizing a pattern related to the learning process which is influenced by internal factors such as motivation and external factors such as information facilities and socio-cultural conditions (Budiman & Riyanto, 2013). Research conducted by Smantumkul (2014) showed that the level of knowledge was divided into three, namely low level of knowledge (32.58%), medium level of knowledge (50.56%) and high level of knowledge (16.85%). The knowledge a person has will give rise to confidence in the effectiveness of the treatment he is currently undergoing. The results of research conducted by Lestari & Isnaini (2018) show that someone who receives information about a disease and how to treat it is more likely to achieve success in the process of treating that disease.

Research regarding the level of knowledge regarding compliance with medication use in 2016 showed that glaucoma sufferers with moderate to good levels of knowledge (92.1%) tended to have a high level of compliance (78.9%) (Chaidir et al, 2016). Previous research by Sumbara et al (2020) showed that there was a relationship between the level of knowledge and control compliance in patients after trabeculectomy surgery at the Cicendo Eye Hospital, Bandung. Patients who have good knowledge are mostly obedient to undergoing post-operative control (77.8%) while patients with less knowledge are generally non-compliant to undergo post-operative control (89.7%). This high level of compliance is influenced by the level of knowledge which creates trust and confidence in the success of treatment.

Recapture of data from the Undaan Eye Hospital polyclinic in 2020 as many as 45,512 patients. Meanwhile, in 2021 the number will increase to 48,672 patients. A preliminary study conducted in the period 30 January to 4 February 2022 at the outpatient installation of the Undaan Eye Hospital through administering questionnaires to 30 patients with a history of glaucoma showed that 28% had low knowledge, 33% of patients had moderate knowledge and 39% of patients had low knowledge. tall. The results of short interviews conducted with 10 patients with a history of glaucoma showed that their lack of understanding about glaucoma disease influenced their routine for control, prevention efforts and also compliance with the use of antiglaucoma therapy drugs.

Based on the explanation above, treatment compliance is very important for the management of glaucoma. The treatment given to glaucoma sufferers aims to stabilize intra-ocular pressure within normal limits 8 so that the condition does not worsen to the point of loss of vision or blindness. Adherence to treatment in glaucoma sufferers is very important to prevent further complications such as pain and blindness. Treatment compliance is influenced by many factors, one of which is the level of knowledge. Based on the problems above, researchers are interested in conducting research on the relationship between the level of knowledge and compliance with medication use in patients with glaucoma, so that the results of this research can be used as a reference for developing nursing interventions as an effort to optimize care for patients with glaucoma.

METHODS

This research is a non-experimental analytical observation with a cross-sectional approach. Cross sectional is research carried out with the aim of studying the existence of a dynamic correlation between risk factors and effects (Sugiyono, 2012). In this study, we wanted to find out the relationship between family support and adherence to medication administration in the care of glaucoma clients. The research was carried out observationally where the dependent variable, namely the level of obedience, was observed at the same time (Bhisma, 2013).

RESULTS AND DISCUSSION

This research was carried out from March 14 2022 to March 31 2022 with patient research respondents before surgery at the hospital. Mata Undaan Surabaya which meets the inclusion criteria. Research respondents consisted of 29 research respondents. In this research, two parts of data will be discussed, namely general data and special data.

Characteristics of respondents based on the length of time they have suffered from glaucoma

No	Long suffer	Amount	Percentage
1	< 1 year	7	23.3%
2	1-2 year	10	33.3%
3	2-3 year	5	16.7%
4	3-4 year	6	20%
5	>4 years	2	6.7%
	Amount	30	100%

Based on the table above, it was found that 7 patients (23.3%) had suffered from glaucoma for a duration of less than 1 year, between 1-2 year as much 10 patient (33.3%) between 2-3 year as much 5 patient.

Level Knowledge Family and Glaucoma Patients .

No	Education	Amount	Percentage %
1	Not enough	4	13.3%
2	That's enough	5	16.7%
3	Good	21	70%
	Amount	30	100%

Based on the table above, it is found that the majority of families of glaucoma patients (70%) have a good level of knowledge about glaucoma. (16.7%) had sufficient level of knowledge and (13.3%) had insufficient level of knowledge.

Level of Treatment Compliance in patients Glaucoma.			
No	Education	Amount	Percentage (%)
1	Low	7	23.3%
2	Tall	23	76.7%
	Amount	30	100%

Based on the table above, it is found that the majority of glaucoma patients (76.6%) have a good level of compliance regarding glaucoma disease, and (23.3%) have a good level of compliance. not enough.

DISCUSSION

Various factors can influence a person's compliance including gender, age, education, and the length of time they have suffered from glaucoma. As can be seen in table 1, based on gender, the number of female respondents was greater, namely (63.3%) compared to male respondents (36.7%). This is consistent with research (Ismandari, F 2012) which involved 420 patients diagnosed with open-angle glaucoma or closed-angle glaucoma and found that the number of female patients (51.87%) was greater than male patients (48.13%). The prevalence of open-angle glaucoma in men is higher than and the prevalence of angle-closure glaucoma in women is higher than in men. This is because the majority of women's anterior chamber angles are shallower in volume than men. Age is related to tissue aging factors, length of exposure to risk factors and duration of illness. The results of this study can be seen in table 2. In this study, the majority of glaucoma patients were in the age range > 55 years (53.3%), the lowest was in the age group less than 20 years (6.70%). So 53.3% of glaucoma sufferers at Undaan Eye Hospital are > 55 years old with the proportion being in the 55-64 year age group. Glaucoma is still an eye disease that is rarely known by the general public, so blindness due to glaucoma is still high. This is related to several factors, namely socio-economic, patient awareness, level of education and access to information. Socioeconomic and patient awareness of having patients checked regularly will have a direct impact on access to information (print media, social media, education, etc.). Socioeconomic factors can also be described through education level. This research can be seen in table 3 that the respondents had a final education of S1/D3 (30%), high school (46.7%), middle school (6.7%) and elementary school (16.7%). According to

Suhaidah (2016) individual education will influence the level of treatment compliance. Someone who has a high education will have high knowledge. The higher a person's education, the higher his or her ability to absorb and understand and the easier it will be to receive information. Compliance can be influenced by various internal factors such as age, education, social factors and disease as well as external factors such as the environment and trauma or conflict (Carina 2012). Defining compliance, also known as adherence, is the degree to which patients who have been ill for a long time will comply more with the doctor's recommendations.

CONCLUSION

From the research it can be concluded that there is a relationship between the level of family knowledge and patient compliance in using medication. Based on the results of a research discussion regarding the relationship between the level of family knowledge and treatment compliance in glaucoma patients at the Undaan Eye Hospital, Surabaya, conducted in April with the family characteristics of glaucoma patients with a sample of 30, based on sociodemographic characteristics, namely;

a. Knowledge about glaucoma, the majority in this study were at a good level of knowledge as many as 21 patients (70%)

b. Assess medication adherence efforts. The majority in this study had a high level of compliance as many as 23 patients (76.7%).

c. The relationship between the level of family knowledge and efforts to prevent glaucoma in patients at the Undaan Eye Hospital in Surabaya shows a positive relationship and has a strong correlation.

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