

The Relationship of Eye Care Compliance with Iris Inflammation in Patients Post Phacoemulsification Surgery

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ABSTRACT

Iris inflammation can occur in post cataract surgery patients due to lack of adherence to post cataract surgery care. With the occurrence of inflammation of the iris will cause discomfort to patients with complaints of redness of the eyes, blurred vision, and pain in the eyes. The purpose of this study was to determine the relationship between eye care adherence and iris inflammation in postoperative phacoemulsification patients at Undaan Eye Hospital Surabaya. The study used an analytical survey design with a cross sectional approach. The sample of this study was 80 people who were examined on the seventh day after Phacoemulsification surgery taken by purposive sampling. The independent variable in this study was eye care compliance and the dependent variable was the incidence of iris inflammation. Data were collected through observation and questionnaires. Data analysis using chi-square test. The results showed that the level of adherence to eye care in post-phacoemulsification patients was mostly very compliant with 60 respondents (75%), a small proportion of respondents experienced inflammation as many as 19 respondents (23.8%). The results of data analysis using the chi square test was 57.728 with a p value of $0.000 < 0.05$, which means that there is a relationship between eye care compliance and the incidence of iris inflammation in post-operative phacoemulsification patients. The conclusion is that the success of cataract treatment cannot be separated from postoperative care. Postoperative care adherence is an important factor in the success of cataract surgery recovery. It is hoped that this research can motivate nurses to always provide education to be more obedient to postoperative phacoemulsification care and patients care about health, especially compliance in postoperative phacoemulsification care.

Keywords: Eye Care Compliance, Iris Inflammation, Phacoemulsification

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INTRODUCTION

Phacoemulsification technique is the newest cataract surgery technique which uses ultrasonic vibrations to destroy the cloudy eye lens. Currently, this technique is very popular with cataract sufferers because using this technique only requires small incisions, healing of surgical wounds is faster. However, despite its advantages, there are several complications after cataract surgery using the *Phacoemulsification technique* due to lack of compliance with post-operative care which include anterior uveitis, endophthalmitis, iris

complications, corneal complications. Post-operative cataract care is very important to pay attention to, because the success of cataract surgery cannot be separated from the patient's compliance with post-operative care. .(Budiono, 2013)

The World Health Organization (WHO) states that around 38 million people suffer from blindness and nearly 110 million people suffer from reduced vision. This fact shows that there are around 150 million people suffering from visual impairment, it is estimated that the number of blind people worldwide will increase by 1-2 million people per year. The 2013 National Basic Health Research (Riskesdas) report shows that the prevalence of cataracts is highest in North Sulawesi (3.7%). There was no data on the prevalence of cataracts in East Java. Meanwhile, data on RS. In Undaan Eyes, the prevalence of cataracts occupies the top position in the 10 (ten) most common diagnoses.

In Indonesia there is no accurate data regarding the number of cases of iris inflammation after *Phacoemulsification surgery* . In the United States, it has been found that the incidence of anterior uveitis or iris inflammation is 8 – 12 people per 100,000 people per year. According to reports from the Hospital Medical Records Unit. In Undaan Eyes, in the last 3 (months), the prevalence of iritis (inflammation of the iris) after surgery using the Phaco technique occurred in 25 (twenty five) cases. Based on an interview with the head of the hospital's eye polyclinic room. Mata Undaan on January 22 2022, there are still post-cataract surgery patients who do not undergo post-cataract surgery procedures in accordance with the provisions or instructions given. The patient's eye bandage was found to be wet.

Phaco (*Phacoemulsification*) is a technique for removing lens material using smaller incisions with a small number of stitches or even no stitches at all. In general, intraocular surgery triggers the accumulation of microphages and neutrophils which are activated by circulating inflammatory agents including cyclooxygenase and lipoxygenase metabolites, proteolytic agents and others, triggering the appearance of signs of inflammation. The cataract surgery procedure itself induces the expression of pro-inflammatory genes and protein secretion so that this mechanism results in inflammation. Iris inflammation can be caused by the direct effects of a post-operative infection. Pyogenic infection usually follows a penetrating ocular trauma. To reduce inflammation and prevent infection from occurring due to the surgical process, eye drops must be given after surgery.

The success of cataract treatment cannot be separated from post-operative care. Compliance with post-operative care is an important factor in the success of recovery from cataract surgery. Patient compliance is the extent to which patient behavior complies with the provisions given by health workers. The degree of non-compliance is determined by several factors, namely: the complexity of the treatment procedure, the degree of lifestyle changes required, the length of time the patient must comply with the program, whether the disease is truly painful, whether the treatment has the potential to save lives and the perceived severity of the disease itself . by patients and not health workers (Niven, 2020).

METHOD

The targets of this research were post-operative *Phacoemulsification patients* at the Udaan Eye Hospital, Surabaya. The method used in this research is through observing treatment compliance regarding the incidence of iris inflammation in patients after cataract surgery using the *Phacoemulsification technique* which was carried out in March 2022 at the Udaan Eye Hospital Polytechnic, Surabaya. From a total of 80 patients as research samples, researchers used data from medical records and questionnaire instruments as data collection sources. Apart from that, researchers also took data from observations of *Slit lamp examinations* carried out by examining doctors to see the condition of the cornea.

RESULTS

Research activities will be carried out in March 2022 at the Udaan Eye Hospital Polytechnic, Surabaya. The results of the implementation of this research activity obtained the following results

Table 4.1 results of the implementation of research activities at the Udaan Eye Hospital Polytechnic, Surabaya.

Characteristics	Frequency
Age	
48 – 53 Years	36
54 – 59 Years	14
60 – 65 Years	10
66 – 71 Years	19
72 ≤ Years	1
Gender	
Man	47
Woman	33
Work	
Civil servants	7
Private	32
Self-employed	8
Student / Student	0
Pension	10
Doesn't work	23
Hometown	
Surabaya	48
Outside Surabaya	32
Compliance level	
Very disobedient	1
Not obey	7
Enough	10
Obedient	2
Very obedient	60

Inflammatory events	
Inflammation occurs	19
No inflammation occurs	61

Based on table 4.1, the results showed that the majority of respondents were aged 48 - 53 years as many as 36 respondents (45%) and a small proportion were aged 72≤ years as many as 1 respondent (1.25%), for gender more than half of the respondents were male - 47 respondents (58.8%) were male. Based on occupation, it shows that the majority of respondents work in the private sector, 32 respondents (40%) and a small number work as civil servants, 7 respondents (8.8%), while for the city of origin of the respondents, more than half come from the city of Surabaya, 48 respondents (60%). In data on the level of compliance with eye care after *Phacoemulsification surgery* , 60 respondents (75%) were very compliant and 1 respondent (1.25%) was very non-compliant. The results of observing the incidence of inflammation in respondents showed that more than half of the respondents did not experience inflammation after *Phacoemulsification surgery* , 61 respondents (76.2%) and 19 respondents (23.8%) experienced inflammation.

Phacoemulsification Surgery at the Undaan Eye Hospital, Surabaya, which was carried out from March 1 to March 31 2022

Eye Care Compliance	Inflammation of the iris		Total
	Inflammation of the iris occurs	There is no iris inflammation	
(1) very disobedient	1	0	1
(2) disobedient	7	0	7
(3) quite obedient	7	3	10
(4) obedient	2	0	2
(5) Very Obedient	2	58	60
Total	19	61	80

The results of the cross-tabulation of eye care compliance with iris inflammation in patients after phacoemulsification surgery can be explained as follows: That patients with eye care compliance who experienced inflammation were mostly non-compliant, 7 patients or 8.8%, 7 patients or 8.8% were quite compliant. , and a small percentage was very non-compliant, 1 patient or 1.25%. Meanwhile, 3 patients or 3.75% of patients with eye care compliance who did not experience inflammation were quite compliant and 58

patients or 72.5% were very compliant. The results of data analysis using the *chi square test* were 57.728 with a p value of $0.000 < 0.05$, which means there is a significant relationship between Eye Care Compliance and Iris Inflammation in Post- *Phacoemulsification Surgery Patients*.

Discussion

In Table 4.1, it is known that patient compliance in eye care includes 60 respondents (75%) who are very compliant, this condition is related to factors that influence compliance, one of which is individual factors, namely the individual's attitude of wanting to recover is the strongest thing in the individual. Alone. The desire to maintain one's health greatly influences related factors

with the sufferer's behavior in controlling their disease (Notoatmodjo, 2018). For the level of non-compliance there were 7 respondents (8.8%) this condition was associated with factors of non-compliance with treatment, namely the patient's lack of understanding about the purpose of treatment, not understanding the importance of following medication instructions, lack of family attention and concern (Siregar, 2018). In Table 4.1, it is known that 61 respondents (76.2%) had no inflammation and 19 respondents (23.8%) experienced inflammation, thus it can be concluded that some patients after *Phacoemulsification surgery* experienced iris inflammation.

Subjective complaints that accompany iris inflammation are patients complaining of pain, glare, blurred eyes. Objective symptoms include visible hyperemia of the sclera and conjunctiva, cloudy cornea, decreased visual acuity, swollen eyelids. On slitlamp examination there are wide pupils, shallow BMD, cloudy cornea, edematous iris. However, if the patient before the *Phacoemulsification* operation has a previous history of iris inflammation or a history of glaucoma and the patient has a history of diabetes, the patient is more likely to experience iris inflammation after the *Phacoemulsification operation* than patients who do not have a history of this disease. Because in general intra-ocular surgery triggers the accumulation of microphages and neutrophils which are activated by circulating inflammatory agents including cyclooxygenase and lipoxygenase metabolites, proteolytic agents and others, triggering the appearance of signs of inflammation.

The results of data analysis using the *chi square test* were 57.728 with a p value of $0.000 < 0.05$, which means there is a significant relationship between Eye Care Compliance and Iris Inflammation in Post- *Phacoemulsification Surgery Patients*. The results showed that the patients were very disobedient, 1 respondent (1.25%) experienced inflammation, disobedient 7 respondents (8.8%) experienced inflammation, quite compliant 7 respondents (8.8%) experienced inflammation and 3 respondents did not experience inflammation. 2 respondents (2.5%) had inflammation, very 2 respondents (2.5%) had inflammation and 58 respondents (72.5%) had no inflammation.

In patients with very compliant compliance, 2 respondents (2.5%) experienced this inflammation, which could occur considering that the factors that influence wound healing, one of which is immune system disorders, will inhibit and change the body's reaction to wounds, tissue death and contamination. If the body's immune system, both cellular and

humoral, is disrupted, then cleaning up contamination and dead tissue as well as containing infection will not work well. From the results of observations, there were 7 respondents (8.7%) who did not comply with the medication and experienced iris inflammation. Use eye drops after *phacoemulsification surgery* on the first day 4-6 times a day and can be given for one month with the same frequency. Regular use can reduce the occurrence of iris inflammation. Each sufferer is different depending on individual factors. If you don't use it regularly, it can cause iris inflammation.

CONCLUSION

Based on the research results, the following conclusions were obtained:

1. The level of compliance with eye care in post-phacoemulsification patients was mostly very compliant with 60 respondents (75%).
2. A small percentage of respondents experienced inflammation as many as 19 respondents (23.8%).
3. That patients with eye care compliance who experienced inflammation was due to 1 patient being very non-compliant or 1.25%, 7 patients or 8.8% being non-compliant, 7 patients or 8.8% being quite compliant, 2 patients or 2.5% being quite compliant. % very compliant inflammation occurs. Meanwhile, 3 patients or 3.75% of patients with eye care compliance who did not experience inflammation were quite compliant and 58 patients or 72.5% were very compliant. The results of data analysis using the chi square test were 57.728 with a p value of $0.000 < 0.05$, which means there is a relationship between eye care compliance and the incidence of iris inflammation in patients after *phacoemulsification surgery* at the Undaan Eye Hospital, Surabaya.

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