



Analysis of Age and Gender Factors on the Incidence Rate of Cataracts in the Ophthalmology Clinic

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Abstract

Cataracts are a cause of blindness which accounts for approximately half of all blindness in the world, especially in developing countries. The mechanism of cataract formation is highly multifactorial. Loss of transparency in the nucleus and cortex of the lens of the eye can occur as a result of oxidation of membrane lipids, structural or enzymatic proteins by peroxides or free radicals induced by UV light. Other factors that can cause cataract formation are degenerative processes and diabetes mellitus). Cataract therapy is a surgical procedure by removing the cloudy lens, because no medical therapy has been proven to remove cataracts in adults. There are many methods that can be done with surgery for cataract patients. One of them is phacoemulsification, which is a cataract surgery using a small incision method. In this technique, liquefaction of the lens is made using an ultrasound probe that is inserted through an incision in the cornea or anterior sclera. This study aims to determine the relationship between age and gender with the incidence of cataracts at the Eye Polyclinic Outpatient Installation in 2022. This is a retrospective analytic study by examining data in the Recamedics Department. The data is grouped by age, sex and type of cataracts. There were 197 patients who came to the eye polyclinic in July 2022. From the results of the study, 197 people suffered from cataracts with a percentage of 88 men (45%) and 109 women (55%) and the age group that suffered the most from cataracts was the age group 53-68 years and the most common cataracts were senile cataract. Analysis of the relationship between age and gender with the incidence of cataracts in the Outpatient Installation (Poly Eyes) for the period of July 2022 obtained a value for the relationship between age and the incidence of cataracts $P = 0.846$ and the relationship between sex and the incidence of cataracts $P = 0.01$. Conclusion: In this study there is a significant relationship between gender and the incidence of cataracts and there is no relationship between age and the incidence of cataracts.

Keywords: Factor Analysis, Age, Gender, Cataract Incidence, Eye Polyclinic

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1. Introduction

According to data from the World Health Organization (WHO) there is an increase in new cataract patients of around 2 million each year (Khan et al, 2010; Gogate 2 et al., 2014). Residents in Indonesia have a tendency to suffer from cataracts 15 years earlier than residents in sub-tropical regions, causing the prevalence of cataracts in Indonesia to be still high according to the 2013 Riskesdas.

In 2014, a study was conducted on differences in visual acuity after phacoemulsification surgery in senile cataract patients with diabetes mellitus and without diabetes mellitus with the result that patients without diabetes mellitus had better postoperative visual acuity (Purnaningrum, 2014). In the same year, a study was conducted on Clear Corneal Incision in Cataract Surgery by Al Mahmood with the results of visual recovery after cataract surgery, the phacoemulsification method, the corneal incision technique, was slower than the scleral incision because the cornea is an avascular tissue (Al Mahmood, 2014).

In 2013, a study was conducted on a comparison of the success rate of visual acuity after cataract surgery between the extracapsular method and the phacoemulsification method with 70% better results with the phacoemulsification method (Ramadhani, 2013). Based on various studies on post-cataract surgery using the phacoemulsification method, there has been no study that examines differences in the length of visual recovery in patients with post-cataract surgery using the phacoemulsification method of corneal and limbal incision techniques. So it is necessary to do research on differences in visual recovery time in postoperative cataract patients using the phacoemulsification method of corneal incisions and limbal incisions.

From various Cross Sectional Studies, the prevalence of cataracts in individuals aged 65-74 years is 50%, this prevalence increases to 70% in individuals over 75 years. The Beaver Dam Eye Study also found that around 38.8% of men and 45.9% of women over the age of 74 had cataracts. The blindness rate caused by cataracts in Indonesia is the





highest in Southeast Asia, which is 1.5%, while the blindness rate in Indonesia is third in the world, which is 1.47%.

2. Research Method

Design This study used a retrospective analytical study with a cross-sectional design and examined data from the Medical Records Department of the eye polyclinic, when this study was conducted in September - November 2022. Population All cataract patients who come for treatment at the eye polyclinic.

3. Results And Discussions

a. Result

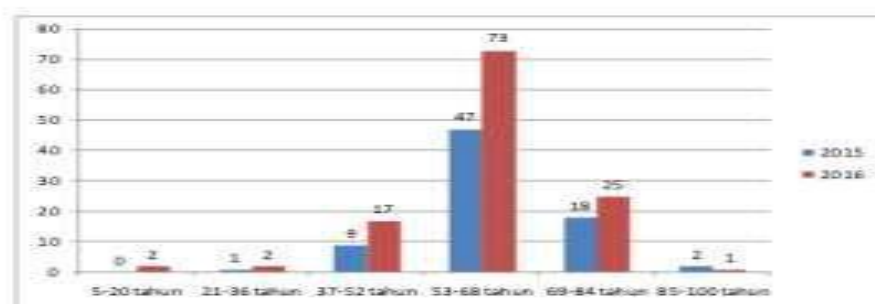
1) Gender

Table 1.
Frequency Distribution of respondents based on Gender in the installation Outpatient (Eye Polyclinic).

Gender	Amount	Percentage
Woman	109	55,4%
Man	88	44,6%
Total	197	100,0

2) Age

Table 2
Frequency distribution of respondents based on age in outpatient Installations (Eye Polyclinic).





b. Discussion

Based on the time of the research conducted during the period September - November 2022 using retrospective analysis at the eye polyclinic and the medical record section of the eye polyclinic, 197 cataract patients came for treatment at the eye polyclinic.

From the data obtained based on the results of research conducted according to the sex of the sufferer, it was found that the female sex was the most common case, namely 109 (55.3%) while the male was 88 (44.6%).

Based on the table above, it can be seen that of the 197 patients who were sampled, 109 people (55.3%) were female sufferers, while 88 patients (44.6%) were male..

Variabel	p
Gender – Cataract Incidence Rate	0.01

The basis for decision making in the Chi Square Test is done by looking at the output value of the "Chi-Square Test" above. In making decisions we can compare the value of Asymp.Sig with a critical limit of 0.05.

- If the value of Asymp.Sig $p = < 0.05$, then there is a significant relationship.
- If the value of Asymp.Sig $p = > 0.05$, then there is no significant relationship. In this test the following hypothesis is used:

H₀ : There is no significant relationship between gender and Cataract Incidence.

H_a : There is a significant relationship between gender and Cataract Incidence.

Statistical results in the Chi-Square Test table show an Asymp.Sig number with a magnitude of 0.01. because the value is $0.01 < 0.05$, there is a significant relationship between Gender and Cataract Incidence. H₀ rejected H_a accepted.





Age. Year of Genesis Cross tabulation Count

		Year Event		Total
		2021	2022	
Age	5-20	0	2	2
	21-36	1	2	3
	37-52	9	17	26
	53-68	47	73	120
	69-84	18	25	43
	85-100	2	1	3
Total		77	120	197

Variabel**P**

0.846

Gender –

Cataract Incidence Rate

How to Test the Hypothesis:

H₀ : There is no significant relationship between age and incidence
Cataract.

H_a : There is a significant relationship between Age and Incidence
Cataract.

Statistical test results obtained p value => 0.05, meaning that there is no significant relationship between age and cataract incidence. So in this test there is no significant relationship because the value of Asymp Sig.0.846 > 0.05. H₀ accepted H_a rejected.

The limitations of this study are that this research is a retrospective study, where the available medical records are incomplete, many important data are not listed properly or the writing is unclear or even missing.





4. Conclusion

- a) Based on the results of retrospective analytical research at the Eye Clinic Polyclinic and the Medical Records Section at the EYE POLYCLINIC for the September-November 2022 period, it can be concluded that:
- b) There are 197 patients with cataract disorders
- c) Female sufferers were found more frequently, namely 109 sufferers (55.4%) compared to 88 (44.6%) male patients.
- d) The age group of 53-68 years is the age group that is most often found with cataracts in the elderly, as many as 120 sufferers (60.9%).
- e) Of the 197 cataract patients who came for treatment at the Ophthalmology Clinic for the period September-November 2022, the type of cataract that was most frequently found was the Senile cataract, with 169 patients (85.7%).
- f) Based on the results of the chi-square statistical test between sex and cataracts, the value of $p = 0.01$ where the Asym.Sig value < 0.05 , it can be concluded that there is a significant relationship between gender and the incidence of cataracts.
- g) Based on the results of the chi-square statistical test between age and cataracts, the value of $p = 0.846$ where the value of Asym.Sig > 0.05 .

It can be concluded that there is no significant relationship between gender and the incidence of cataracts.

5. Compliance with ethical standards

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**Disclosure of conflict of interest**

This research collaboration is a positive thing for all researchers so that conflicts, problems and others are absolutely no problem for all writers.

Statement of informed consent

Every action we take as authors is a mutual agreement or consent.

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