

LEVEL KNOWLEDGE OF CATARACT, EDUCATION, AND SOSIOECONOMIC STATUS WITH PREOPERATIVE VISUAL ACUITY IN PATIENTS WITH SENILE CATARACT IN PHC HOSPITAL OF SURABAYA

Yordani Sumomba¹⁾, Titiek Ernawati²⁾, Florentina Sustini³⁾

ABSTRACT

Introduction : Cataract is a cloudiness in the fibers or lens material inside the lens capsule. If the cataract was not treated immediately, the patient might experience blindness.

Aim: This study aimed to analyze the correlation between the level of knowledge about cataract, education, and socioeconomic status with preoperative visual acuity in patients with senile cataract in hospital PHC Surabaya.

Methods : This study was observational analytic with sampling through accidental sampling. The sample of the study was senile cataract patients preoperatively on August 24th to 27th September 2016. The variables of the study was the level of knowledge about cataract, education level, socioeconomic status, and preoperative visual acuity. Data analysis used Spearman correlation test.

Results : Results obtained preoperatively senile cataract patients was highest in the age group 60-64 years (28%) and the lowest in the age group 75-79 years (6%). By gender, patients of senile cataract was highest in the group of male (52%) than female (48%). There was a significant correlation between the level of knowledge about cataract ($p = 0.008$) and level of education ($p=0,006$) with preoperative visual acuity in patients with senile cataract. There was no correlation between socioeconomic status with preoperative visual acuity in patients with senile cataract ($p = 0.124$).

Conclusion : The results showed that the factors affecting patients in seeking treatment of cataract was the level of knowledge about cataract and level of education. Patients with a good level of knowledge and good education were expected to recognize the symptoms of cataracts immediately and could search for cataract treatment to prevent blindness.

Keywords : Senile cataract, level knowledge, education, socioeconomic status, visual acuity

¹⁾ Student of Faculty of Medicine, Widya Mandala Catholic University Surabaya, Kalisari Selatan 1 Surabaya
Email : ysumomba@gmail.com

²⁾ Ophthalmology Department, Faculty of Medicine, Widya Mandala Catholic University Surabaya, Kalisari Selatan 1 Surabaya

³⁾ Public Health Department, Faculty of Medicine, Widya Mandala Catholic University Surabaya, Kalisari Selatan 1 Surabaya

INTRODUCTION

The eye is a vital organ for humans to obtain information in a visual form that is used to carry out daily activities. The health of this organ is an important factor in improving the quality of human resources. The decline in the sense of sight begins to occur from mild to severe⁽¹⁾.

Cataracts are turbidity conditions in the fibers or lens material in the lens capsule.⁽²⁾ Cataracts come from the Greek word "kataarrhakies" which means waterfall. In Indonesian, cataracts are called bular, which is vision like a waterfall covered by a cloudy lens.⁽³⁾ In Indonesia, cataracts are still one of the leading causes of blindness. Estimated increase in cataract incidence is around 0.1% per year.^(4,5)

The main management of cataracts is surgery. Surgical actions are carried out if there are surgical indications such as: cataracts have disrupted daily work even though the cataract is not mature, mature cataracts because if it becomes hypermaturated it will cause complications such as uveitis and glaucoma, and cataracts cause complications such as intestinal cataracts glaucoma and infection.⁽²⁾ Surgery or cataract surgery is divided into extracapsular cataract surgery,

intracapsular cataract surgery, and phacoemulsification.

Several factors that play a role in the patient's attitude towards cataract surgery are knowledge, education, and socio-economic status. Based on Riskesdas data in 2013, the three main reasons for patients avoid cataract surgery were because they did not know if they had cataracts (51.9%), economic factors (11.9%), and were afraid of surgery (4.5%).^(4,7) In addition, according to the Riskesdas in East Java 2013, the reason for not having cataract surgery was because they did not know they had cataracts with a prevalence of 51.3% and were unable to finance operations with a prevalence of 12.1%.^(6,7,8) Therefore, this study was conducted to determine the relationship between the level of patient knowledge about cataracts, education, and socio-economic status of patients with preoperative visual acuity at PHC Surabaya Hospital.

METHODS

The study was observational by using a type of analytic research with a cross-sectional approach, namely that each subject was only made one measurement at the time of examination.

The sample used in this study was preoperative senile cataract patients aged ≥ 50 years old in August to September

2016. The study was conducted on 24 August to 27 September 2016. Data was taken from medical records to see the visibility of respondents and provide questionnaires to determine the level of knowledge about cataracts, education, and socio-economic status. The inclusion criteria of this study were preoperative senile cataract patients in PHC Surabaya Hospital aged ≥ 50 years old in August – September 2016. The exclusion criteria for this study were patients who were not cooperative and patients had dementia. The number of research samples was 50 respondents.

This research uses data about the level of knowledge about cataracts carried out by questionnaires, educational data and socio-economic status carried out by interviews. Preoperative visual acuity data was taken by looking at the patient's medical records. Sampling was done through accidental sampling so that 50 respondents were sequentially fulfilling the selection criteria. The collected data was analyzed using SPSS and tested using Cronbach's Alpha.

RESULT

The characteristics of respondents in the study were based on age, gender, and level of vision. Complete data can be seen in the following table.

Table 1 Distribution of Age Preoperative Cataract Based Patients in PHC Surabaya Hospital Period 24 August - 27 September 2016

No.	Age Group (years)	Frequency (n)	Percentage (%)
1	50 – 54	8	16
2	55 – 59	6	12
3	60 – 64	14	28
4	65 – 69	9	18
5	70 – 74	10	20
6	75 – 79	3	6
Total		50	100

Shown on **table 1**, the highest age was 60-64 years old in 28% (14 patients) and the lowest age group was 75-79 years 6% (3 patients). 60-64 group has a highest number possibly because starting at the age 60, cataracts will affect vision more due to increased turbidity. In addition, 60 years old is the age of retirement so that patients have time to go to the hospital.

Table 2 Distribution of Preoperative Patients with Senile Cataracts Based on Gender in PHC Surabaya Hospital Period 24 August - 27 September 2016

No.	Gender	Frequency (n)	Percentage (%)
1	Man	26	52
2	Woman	24	48
Total		50	100

Shown on table 2, the percentage of cataract preoperative patients by sex, male was 52% (26 patients) and female was 48% (24 patients). There were more men than women, possibly because more men work, especially work done outdoors

so they are exposed to the sun which can cause a risk of cataracts.

Table 3 Distribution of Preoperative Senilis Patients Based on Sharp Vision Preoperative Patients in Surabaya PHC Hospital Period 24 August-27 September 2016

No.	Sharp eyesight	Frequency (n)	Percentage (%)
1	>6/60	12	24
2	6/60 ->3/60	6	12
3	3/60 ->1/60	10	20
4	1/60 - LP+	22	44
Total		50	100

Shown on table 3, the percentage of preoperative cataract patients based on the highest visual acuity was in 1/60 vision group - LP + which was 44% (22 patients) and the lowest was in 6/60 -> 3/60 vision sharp group, 12% (6 patients).

Table 4 Cross Tabulation Distribution Level of Knowledge Regarding Cataracts with Sharp Vision Preoperative in Senile Cataract Patients in Surabaya PHC Hospital Period 24 August - 27 September 2016

Variable	Sharp Vision Preoperative Category						
	Blind and Nearly Blind		Low Vision		Normal and Nearly Normal Vision		
	n	%	n	%	N	%	
Categories of Knowledge Regarding Cataracts	Low Knowledge	11	55	4	19	1	11,1
	Enough Knowledge	8	40	16	76,2	7	77,8
	Good Knowledge	1	5	1	4,8	1	11,1
Total		20	100	21	100	9	100

Shown on table 4, most of subject in blind and almost blind categories have the low knowledge category, 11 patients (55%) and the lowest in the good knowledge category is 1 patient (5%). Most patient with low vision categories that have enough knowledge were 16 patients (76.2%) and the lowest in the good knowledge category, 1 patient (4.8%). Most categories of normal and almost normal vision have enough knowledge 7 patients (77.8%) and the lowest in the low knowledge category and good knowledge, 1 patient (11.1%).

Based on the test results of the relationship analysis between the level of knowledge regarding preoperative cataracts in senile cataract patients, $p = 0.008$ with a correlation coefficient $r = 0.373$, it can conclude that there is a significant correlation between the level of knowledge about cataracts and preoperative visual acuity in senile cataract patients, but the correlation strength is classified as weak ($r = 0.20-0.399$). The positive correlation coefficient r means that the higher the level of knowledge about cataracts, the

better the preoperative visual sharpness in senile cataract patients.

Table 5 Cross Tabulation of Education Level Distribution with Sharp Vision Preoperative in Senile Cataract Patients in Surabaya PHC Hospital Period 24 August - 27 September 2016

Variable	Sharp Vision Preoperative Category						
	Blind and Nearly Blind		Low Vision		Normal and Nearly Normal Vision		
	n	%	N	%	N	%	
Education category	Low education	16	80	7	33,3	3	33,3
	Medium Education	2	10	12	57,2	4	44,5
	Higher education	2	10	2	9,5	2	22,2
Total		20	100	21	100	9	100

Shown on table 5, most blind and almost blind categories have low education 16 patients (80%) and the lowest number in the medium and tertiary education category 2 patients (10%). Most low vision categories have medium education category 12 patients (57.2%) and the lowest number in the higher education category, 2 patients (9.5%). Most in categories of normal and almost normal vision have medium education category, 4 patients (44.5%) and the lowest in the low education category, 2 patients (22.2%).

Based on the test results of the relationship analysis between the level of education with preoperative visual acuity in senile cataract patients, $p = 0.006$ with a correlation coefficient $r = 0.384$, it can be said that there is a significant relationship between the level of education with preoperative vision in senile cataract patients, but the correlation strength classified as weak ($r = 0.20-0,399$). The positive correlation coefficient r means that the higher the level of education, the better the preoperative visual sharpness in senile cataract patient.

Table 6 Cross Tabulation of Distribution of Socio-Economic Status Levels with Sharp Vision Preoperative in Senile Cataract Patients in PHC Surabaya Hospital Period 24 August - 27 September 2016

Variable	Sharp Vision Preoperative Category						
	Blind and Nearly Blind		Low Vision		Normal and Nearly Normal Vision		
	N	%	N	%	N	%	
Category of Socio-Economic Status	Low education	17	85	19	90,4	6	66,7
	Medium Education	3	15	1	4,8	2	22,2
	Higher education	0	0	1	4,8	1	11,1
Total		20	100	21	100	9	100

Shown on table 6, the highest proportion in blind and almost blind categories was in low income category, 17 patients (85%) and the lowest in the high-income category 0 patients (0%). Most low vision categories were in the low income 19 patients (90.4%) and the lowest in the medium and high-income category, 1 patient (4.8%). Most categories of normal and almost normal vision was in the low income category, 6 patients (66.7%) and the lowest in the high income category, 1 patient (11.1%).

Based on the test results of the relationship analysis between socioeconomic status and preoperative visual acuity in senile cataract patients, $p = 0.124$ with a correlation coefficient $r = 0.389$ it can be conclude that there is no significant relationship between socioeconomic status and preoperative visual acuity in senile cataract patients.

DISCUSSION

Visual acuity of preoperative senile cataract patients is closely related to the level of knowledge of patients. Patients with good knowledge of cataracts can immediately seek cataract treatment so that the preoperative visual acuity that is obtained is in good condition. People who have good knowledge will immediately treat their cataracts to health centers or

hospitals because they know about their condition and some complications of their condition. Someone who has good knowledge will immediately inflict cataracts so that before the surgery the patient's visual acuity is still not deteriorating. Conversely, if the knowledge is low, people tend to neglect their cataracts so that when performing surgery, the visual acuity has deteriorated.^(7,8,9,10)

In this study, the percentage of patients who have low knowledge is 32%, enough knowledge 62%, and good knowledge 6%. Based on the Spearman correlation test, there was a significant relationship between the level of knowledge regarding cataracts with visual acuity preoperatively with a p value of 0.008. This is in line with study conducted by Bayu Setiawan. According to Bayu Setiawan (2013), the level of knowledge regarding cataract surgery has a close relationship with the attitude toward cataract surgery which affects the preoperative visual acuity of patients with a p value = 0.031.

This result is also in line with the study conducted by Sofia Arditya and Fifin L. Rahmi (2007) in Dr. RSUP Kariadi Semarang with a p value (p) = 0.02. In this study, the percentage of patients who had less knowledge was 34%,

moderate knowledge was 38%, good knowledge was 28%,

Visual acuity of the preoperative senile cataract patient is closely related to the education level. Patients with a high level of education should be able to immediately seek cataract treatment so that preoperative visual acuity obtained was in good condition. ^(11,12, 13, 14,15,7) Patients with low education levels have low awareness about cataracts so that the patient's visual acuity before surgery has deteriorated. ^(7,16,17)

In this study, the percentage of patients who have low education is 52%, moderate education is 36%, and higher education is 12%. Based on the spearman correlation test, it was found that there was a significant relationship between the level of education with preoperative visual acuity with a p value = 0.006. This is in line with the study conducted by Ni Nyoman Santi Tri Ulandari at the Public Health Center of West Nusa Tenggara with a p value (p) = 0.013. ⁽⁹⁾

In this study we found the cause of the absence of a relationship between socioeconomic status and preoperative visual acuity in senile cataract patients at PHC Surabaya were:

1. Most of the patients have used BPJS which functions to organize health insurance programs for the community. With the existence of the BPJS, the

patient can carry out cataract surgery quickly and at a lower cost. ⁽¹⁸⁾

2. Most patients are retirees from Pelindo so that the cost of cataract surgery is borne by the company. This can reduce the patient's burden of paying for operating costs.

CONCLUSION

Based on the results of from this research to find the relationship between the level of knowledge regarding cataracts, education, and socioeconomic status with preoperative visual acuity in senile cataract patients at PHC Surabaya Hospital for 50 study samples that had met the inclusion criteria on August 24 to September 27 2016, we conclude that:

1. There is a significant relationship between the level of knowledge regarding cataracts and preoperative visual acuity in senile cataract patients.
2. There is a significant relationship between the level of education with preoperative visual acuity in senile cataract patients.
3. There is no significant relationship between socioeconomic status and preoperative visual acuity in senile cataract patients.

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