



**A study to evaluate the effectiveness of planned teaching program on preventing the complications of glaucoma among glaucoma patients in a selected hospital at Bangalore**

<sup>1</sup>Thanga Asha aurelia. S. A., Professor, East point College of Nursing, Jnana Prabha east point campus, Virgo Nagar Post, Bidarhalli, Bangalore-49, Karnataka, India.

**Corresponding Author:** Thanga Asha aurelia. S. A., Professor, East point College of Nursing, Jnana Prabha east point campus, Virgo Nagar Post, Bidarhalli, Bangalore-49, Karnataka, India.

**Citation this Article:** Thanga Asha aurelia. S. A, “A study to evaluate the effectiveness of planned teaching program on preventing the complications of glaucoma among glaucoma patients in a selected hospital at Bangalore”, IJMSIR- April - 2022, Vol – 7, Issue - 2, P. No. 451 – 456.

**Type of Publication:** Original Research Article

**Conflicts of Interest:** Nil

**Abstract**

**Introduction and objectives:** Glaucoma is a broad term used to classify a group of eye disease. These eye diseases damage the optic nerve. The optic nerve acts as the cable wire that carries images from your eye to the brain. Although high pressure can increase a risk factor for vision loss, people with normal pressure have also experienced vision loss as a result of Glaucoma. Vision lost to glaucoma cannot be regained, although there is no cure-medications, surgery and follow-up can help to slow the disease progression. This study was intended to evaluate the effectiveness of knowledge of glaucoma among glaucoma patients in selected hospitals at Bangalore and to determine the association between these as well as with the selected demographic variables.

**Methods:** A true experimental design was used with the evaluative approach, to assess the effectiveness of planned teaching program on preventing the complications of glaucoma, data was collected from 60 glaucoma Patients (30 in experimental group and 30 in control group) who were selected using simple random technique at selected hospitals in Bangalore.

**Results:** The present study reveals that experimental group obtained overall mean knowledge score 36.39% with standard deviation 3.32 in the pretest and in posttest; overall mean knowledge score was 79.28% with standard deviation 2.40. The overall improvement knowledge mean percentage for experimental group of glaucoma patients was 42.89 with ‘t’ value 30.74 which is highly significant at  $P < 0.01$  level. Whereas in Control group, obtained overall mean knowledge score was 31.57% with standard deviation 3.85 in pre-test and 31.39% with standard deviation 3 in the posttest.

The overall improvement knowledge mean percentage obtained for control group of glaucoma patients was 0.89 with ‘t’ value = 0.22 which is not significant at  $P < 0.01$  level. The planned teaching program had enhanced the knowledge of patients regarding preventing the complications of glaucoma. Hence the planned teaching program is instructionally effectively, appropriate & feasible.

**Conclusion:** This study enhances to gain the knowledge on preventing the complications of glaucoma among the glaucoma patients in selected hospitals at Bangalore

which reduces the rate of blindness and prevents the complications.

**Keywords:** Evaluate, Effectiveness, Planned Teaching Program, Glaucoma, Patients, Selected Area.

### Introduction

Eyes are called the window to soul; The most expressive features of our face are eyes They helped us to watch the magnificent colors of a rainbow and the hilarious feathers of a peacock. Glaucoma is derived from a Greek word “Black Water”. Glaucoma was discovered in Vienna, Austria in the year 1850. Dr. Albert Von Graefe cut into a painful, blind eye, using a knife and cut the iris. This cured a high pressure” Glaucoma” and the person was cured.

The number of people with visual impairment worldwide in 2002 was in excess of 161 million. 37 million were blind and 124 million had 100 visions. Globally glaucoma is accounting responsible for almost (12.3%) of blindness.

The number of blind persons in India in 2000 was estimated to be 18.7 million. In India prevalence of blindness is 15% per 1000 population (or) 1.84% of total population. Glaucoma is often called the “silent thief of sight” because it lacks symptoms makes it such an insidious disease-causing blind spots and total blindness, if the disease is not treated and the optic nerve becomes completely destroyed.

Glaucoma is the 2nd leading cause for blindness and it is also called as Ocular Alzheimer’s disease. World Glaucoma Day is on march 12th every year and Glaucoma awareness week is from 7-13th of march.

The ignorance level of blind people can be solved by creating awareness of glaucoma among them. Glaucoma prevalence is 3 times as many African Americans than Caucasians; 4 times as many are blind between ages 45

and 65, glaucoma is 15 times more likely to cause blindness in African Americans. Approximately 5.6 million prescriptions were filled for glaucoma patients in 2001. The average direct cost of glaucoma treatment ranges from \$623 annually for patients with early-stage glaucoma to \$2511 annually for the end stage patients.

The recent study done by the international glaucoma association on 6th August 2009 Italy studies tells that 70 million people having glaucoma around the world.

6 million are blind in both eyes and 3 million are blind throughout the world by glaucoma.

Recent report from Bangalore shankara nethralaya tells that 16 million Indians are expected to rise significantly to glaucoma by 2020, 90% in India are said to be undiagnosed glaucoma which increases the blindness rate. This is in contrast to 40-60% rates of rates of undiagnosed glaucoma in more developed countries. These high rates of undiagnosed glaucoma translate into significant rates of glaucoma blindness. Vision loss from glaucoma being permanent, it needs to be treated. The glaucoma vaccine, with the trade name “Copaxone” is used for patients with multiple sclerosis to reduce immune attacks on nerve cells.

A study was conducted in Miami miller miller school of medicine in the 2011, Purpose: To review the causes of glaucoma in keratoprosthesis recipients. Result: Glaucoma exists in three-quarters of patients who undergo keratoprosthesis surgery, IOP is being raised and change in optic nerve after the keratoprosthesis surgery which tends to cause glaucoma slowly, so these recipients should be managed with glaucoma drainage device (GDD)

A study was conducted by Kozo Mara R, Banja Luka in the 2010 may-June in Serbian. Purpose: To determine the cause of blindness. Method: we analysed causes of

blindness in 808 blind persons, aged from 0-75 years. They classified the findings in 13 categories. Results: The least number was in children 0-15years (2.4%), teenagers (3.4%), age between 30-60 years (33.1%), older population (60.7%). Glaucoma was the highest cause of blindness, complications of myopia (14.6%) took the second place.

A randomized study was conducted in China regarding awareness of eye diseases of elderly population in rural Guangdong. The sample of this study was 535 samples aged 50 years and over were selected by using clustering sampling method were underwent the eye examination and the test of awareness of eye diseases. The study results was shown that 95% of them were aware of the occurrence of eye diseases more than one year, and only 24% of them realized that their eye diseases would be treated. The major barriers for seeking eye care were economic reason, fear of operation, far distance from a hospital, etc. The study concluded that only through patients' education and low-price services.

A study was conducted by Al-Akily SA, Bamashmus MA, Al-Mohammed KA in East mediter health in sanas-University. The purpose was to evaluate the cause of blindness of glaucoma people over aged 50 years in both community and hospital-based study.

### Result

In this study cause of blindness of glaucoma were determined in people aged 50 and above years in both community and hospital-based study and documented using WHO/PBL criteria. In community sample of 707 individuals in a rural area of Taiz the prevalence of bilateral blindness was 7.9% and the cause was glaucoma. Unilateral blindness was found in 8.6% of the community sample. In case of notes reviews 1320 new patients attend eye clinic in sanas. Bilateral blindness was

documented in 26.5% and Unilateral blindness in 9.0% and the main cause was glaucoma.

### Materials and method

To accomplish the objectives of the study, a true experimental study was adopted. The population of the study included glaucoma patients. Thus 60 glaucoma patients from selected hospitals at Bangalore were selected using simple random sampling technique. The study was conducted at Vasan eye care Jayanagar Bangalore, India. Planned teaching program schedule was used to collect the data which consisted of 2 parts:

Part 1: Dealt with the demographic data such as age in years, gender, educational status, income in rupees per month, occupation, area of residence, source of information.

Part 2: Dealt with the knowledge questions on preventing the complications of glaucoma among glaucoma patients using multiple choice questions which consisted of 40 items. To interpret the level of knowledge the scores subjected are as follows:

Inadequate: < 49%, Moderate: 50 – 74% Adequate: > 75-100%.

The prepared tool was administered to 10 Glaucoma Patients in Vasan eye care Hospital at Rajajinagar at Bangalore. The split half method was used to estimate homogeneity. The tool was first divided into two equal halves with odd and even number of questions. Correlation of the test was found out by using Karl-Pearson's correlation co-efficient formula.

The reliability co-efficient of the whole test was then estimated by using Spearman-Brown Prophecy formula. The knowledge questionnaire was found reliable ( $r = 0.56$ ). Hence the tool was reliable for the study.

The pilot study findings revealed that the overall posttest knowledge scores obtained was higher than the overall

pre-test knowledge scores for experimental group which showed significant at  $p < 0.001$ , so this significant gain in knowledge among Glaucoma Patients after attending Planned teaching program on preventing the complications of glaucoma stressed on the effectiveness of Planned teaching program Pilot study showed that the study was feasible.

## Results

### Findings related to pre-test knowledge level of glaucoma patients.

It was found that the level of knowledge in pre-test had inadequate knowledge-93.33%, moderate knowledge - 6.66% and adequate knowledge-0.0% in experimental group and inadequate knowledge level -96.66%, moderate knowledge-3.33% and adequate knowledge - 0.0%. in control group. The overall mean score was found to be 14.46 with mean percentage of 36.15% in experimental group, the overall mean score was found to be 14.5 with mean percentage of 36.25% in control group.

### Findings related to post-test knowledge level of glaucoma patients.

It was found that the level of knowledge in post-test had inadequate knowledge-0.0%, moderate knowledge -0.0% and adequate knowledge-100.0% in experimental group and inadequate knowledge level -100%, moderate knowledge-0.0% and adequate knowledge -0.0%. in control group. The overall mean score was found to be 31.73 with mean percentage of 79.32% in experimental group, the overall mean score was found to be 13.23 with mean percentage of 33.08% in control group.

### Association between the levels of knowledge of patients with demographic variables.

The obtained  $X^2$  value is computed between knowledge scores on gender and area of residences were found not

significant at 0.05 level of significance. Hence for these variables the research hypothesis was rejected whereas the  $X^2$  computed between knowledge scores of glaucoma patients with their age in years, educational status, monthly income in rupees, occupation and source of information were found to be significant at 0.05 level of significance. Hence, for these variables research hypothesis was accepted.

**H<sub>1</sub>:** There will be a significant difference between the pre-test and post-test knowledge scores among experimental and control group of glaucoma patients.

**H<sub>2</sub>:** There will be a significant association between selected demographic variable and the pre-test knowledge scores of glaucoma patients.

## Discussion

The aim of the present study was to evaluate the effectiveness of planned teaching program on preventing the complications of glaucoma among glaucoma patients. Who are attending the O.P.D in "VASAN EYE CARE" hospital at Bangalore? Total sample selected for this study were 60 (30 in experimental group and 30 in control group)Age: In this study it was found that majority of the subjects (34%) belong to the age group between 41-50 years, gender the risk of vision impairment was found out that males are more prone to get vision impairment, educational status awareness was less among the subjects who were illiterate, income in rupees it is more prone for low socio-economic status people, occupation is supported risk of daily wagger increases the risk for increase in tension ,B.P, Diabetes which naturally increase pressure in the eye leading to visual changes, area of residence it is more prone in rural and low sanitary area, source of information is more effective through mass media. The overall mean knowledge score obtained by the subjects was 36.15%

with standard deviation 2.99 in pretest and in posttest 79.325 with standard deviation 2.89 in experimental group, where as in control group overall mean knowledge score 36.25% with standard deviation 3.71 in pretest and 33.08% with standard deviation 3.27 in the post test. The effectiveness of planned teaching program reveals that overall mean knowledge score is 36.15% in the pretest and overall men knowledge score is 79.73% in posttest among experimental group with the 't' value greater than the table value at  $p < 0.01$  level of significance. So the research hypothesis  $H_1$  stated in the study is accepted because there is significant change found between pretest and posttest knowledge scores among glaucoma patients regarding preventing the complications of glaucoma in experimental group. The the obtained  $X^2$  value is computed between knowledge scores on gender and area of residence were found not significant at 0.05 level of significance. Hence for these variables the research hypothesis was rejected whereas the  $X^2$  computed between knowledge scores of glaucoma patients with their age in years, educational status, monthly income in rupees, occupation and source of information were found to be significant at 0.05 level of significance. Hence, for these variables research hypothesis was accepted.

### Conclusion

The present study assessed the knowledge from both experimental and control group of glaucoma patients regarding preventing the complications of glaucoma. The planned teaching program had enhanced the knowledge of patients regarding preventing the complications of glaucoma. Hence the planned teaching program is instructionally effective, appropriate & feasible.

### Implications of the study

The findings of this study have implications in various areas of nursing namely nursing practice, nursing education, nursing administration and nursing research.

#### Nursing Education

- The study emphasize the need for developing good teaching skills among glaucoma patients regarding preventing the complications of glaucoma
- Nurse should be equipped with updated knowledge to teach patients regarding preventing the complications of glaucoma
- The nurse educator should emphasize health education on preventing the complications of glaucoma as a part of learning experience for patients
- **Nursing practice:**
- Nurse need to take responsibility to create awareness among patients regarding preventing the complications of glaucoma .
- Nurse should organize health education campaign for glaucoma patients.
- Nurse should encourage patients to learn self-care management.

#### Nursing administration

- Nurse administrator should ensure that periodical conduction of training program to the glaucoma patients and general public regarding preventing the complications of glaucoma .
- Nurse administrator must make sure that educational and informational material should have consistent information which can be displayed in outpatient department.

#### Nursing research

- This study will be motivated for budding researcher to conduct similar studies on large scale.
- The study will be a reference for research scholars.

## Recommendations

On the basis of the study findings the following recommendations were made for further research.

- Similar study can be replicated on a large sample to generalize the findings.
- A comparative study can be conducted between urban and rural patients.
- It can be screened as awareness program in hospital and community settings.
- Develop skills of health personnel at the primary, district and tertiary health care levels.

## Acknowledgement

I express my deep sense of gratitude to Prof. Beena Marrel, HOD of Medical and Surgical Nursing Department for her support throughout the study.

I express my sincere and wholehearted gratitude to Prof. Mrs. Beena Marrel Principal E.T.C.M. College of Nursing, Kolar, for her constant support, encouragement and expert guidance in helping me complete this study. I am thankful to Mr. Ravishankar, Statistician, Sri Devaraj Urs Medical College Kolar for his expert guidance and assistance in the statistical analysis and valuable suggestions. I also thank all the experts who guided me to complete this study successfully. All glory goes to my heavenly father.

## References

1. World health organization. Prevention of blindness and deafness, global mirative for the elimination of anidahle blindness. Henva: WHO: 2000. WHO /pb2/ 97061. Rev 2.
2. Taylor. A. Association between Nutrition and cataract Nutr Rev 1999; 47: 8,225-34
3. Klaver CL, Wolter RC, Vingerling JR, Hot man A, de Jong PT, Age specific prevalanance and cause of blind

ness and vision impairment in an older population. Arch ophthamol,2002;116: 653 -8

4. Shumley – Dulitzki y, Rouner B.W, Screening for depression in older persons with low vision, AMJ, Geriatr psychiatry 2000; 5:216-20
5. Foster A, Johnson G. Magnitude and causes of blindness the developing world. Int Ophthalmol 1990: 14: 135-40.
6. Taylor HR. Epidemiology of age-related cataract. Eye 2000; 13:445-448.
7. Dienn BP, Bourne RRA, Ali S.M. Prevalence and causes of blindness. Br J Ophthalmol 2003; 87: 820-8.
8. Bala Subramaniam R. Population Ageing- A public health challenge journal of public health 2001; June: 23(2); 112-117.
9. saliv ME, Guralink J, Christen W, Glynn RJ, Closher P, Ostfeld AM.
10. Zhongua van ke za zh: patient awareness study of elderly population in rural Guangdong. 2001 Jan; 37 (1): 28-30.
11. Kasturi sunderao an introduction community health nursing 4<sup>th</sup> edition jantath Bi publications pvt. ltd. 2004.
12. Food Nutrition and diet Therapy KRAUSE and HUNSHER, 5<sup>th</sup> Edition.
13. Jing jin, grant Edward skalr, Vernon min sen oh, and shuchuen LI. Factors affecting therapeutic complia national university of Singapore: 2008 Feb: 4 (1).
14. Chucano Bedoyap: department of nutrition school public health Science may2009.
15. Polit F. Denise Phd, beck Totano Cherly. Nursing research generating and assessing evidence for nursing practice. 8<sup>th</sup> edition. Lippincott Williams and Willing; 2008.