ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
Vol. 4, Issue 11, Month: September 2025, Available at: https://hijnrp.journals.ekb.eg/

The Effect of an Educational Program on Improving Self-Care among the Elderly Patients with Cataract

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Abstract:

Background: Cataract is the most common cause of vision loss, it usually occurs in people over age 60 years and is the principal cause of blindness in the world. Self-care for elderly patients with cataracts is crucial for improving their quality of life and reducing the impact of vision loss**. Aim of the study**: The present study aimed to evaluate the effect of educational program for improving self-care among elderly patients with cataract. **Design**: A quasi-experimental research design was used in this study. **Sample** : A purposive sample of 240 elderly patients of cataract. **Setting:** The study was conducted in the Ophthalmology out-patient clinics at Sohag University Hospital. **Tools**: One tool, Structured interview questionnaire included four parts: Part I: Demographic characteristic of the elderly patients with cataract & Past and present medical history of elderly patients with cataract, Part II: The elderly patients knowledge about cataract, Part III: Elderly patients' reported practice about cataract and part IV:Self care for elderly patients with cataract. **Result**: The study results revealed that, 48.3 % of studied patients' had satisfactory total knowledge level pre program which improved to 91.2 % of them had satisfactory total knowledge level at post program. While, 25.0 % of them had adequate total reported practices level pre program which improved to 75.0 % of studied patients had adequate total reported practices level at post program. In addition, 83.70 % of studied patient had poor total self-care pre program become 70.40 % of them had good total self-care at post program**. Conclusion**: The study concluded that an education program had marked improved in elderly patients knowledge, reported practices and self-care regarding cataract. **Recommendations**: Continuing educational programs for elderly patients to improve knowledge, practices and self care about cataract.

Keywords: Cataract, Elderly Patients, Educational program, Self-care,

Introduction:

The elderly are individuals typically defined as being 60 or 65 years of age or older, depending on the context and country. This stage of life is characterized by physiological, psychological, and social changes that may affect health, independence, and quality of life. Globally, the elderly population is growing rapidly due to increased life expectancy and declining fertility rates. According to the World Health Organization (WHO), by 2030, 1 in 6 people worldwide will be aged 60 years or older, and by 2050, the global population aged 60 and over is expected to reach 2.1 billion, up from 1 billion in 2020 **(Tenchov et al., 2023).**

ISSN 2786-0183
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In Egypt, the elderly population (aged 60 years and above) has been steadily increasing. According to the Central Agency for Public Mobilization and Statistics (CAPMAS), the elderly accounted for approximately 7.4% of Egypt's total population in 2023, with projections indicating a rise to nearly 10% by 2030. This demographic shift highlights the need for enhanced healthcare, social support, and elderly-focused policies in the country **(Hong et al., 2023).**

A cataract is the loss of the optical consistency of a crystalline lens. It can manifest as anything from slight fluctuations in the lens's initial purity to total cloudiness. Cataracts are the primary cause of vision loss in those over 60. It is estimated that 285 million individuals suffer from visual impairments globally, of which 39 million are blind and 246 have low vision. Moreover, about 50% of blindness worldwide is caused by cataracts. Approximately 90% of visually impaired people worldwide reside in low-income nations. **(Jiang et al., 2023) .** In Egypt, more than 60% of blind people require surgery due to cataracts. WHO statistics indicates that there are one million blind people and three million visually impaired people living in Egypt **(Taha., 2021).**

There are different types of cataract. Nuclear cataracts form in the middle or center of the lens and cause the nucleus to become yellow or brown. Cortical cataracts are wedge-shaped and form around the edges of the nucleus. Posterior capsular cataracts form faster than the other two types and affect the back of the lens. Congenital cataracts, which are present at birth or form during a baby's first year. Secondary cataracts are caused by disease or medications such as glaucoma, diabetes and steroid medication **(National Eye Institute, 2023).**

Common symptoms of cataracts include blurry vision, trouble seeing at night, seeing colors as faded, increased sensitivity to glare of the sun or other bright lights, driving becomes more difficult, particularly at night, halos surrounding lights, double vision in the affected eye and a need for frequent changes in prescription glasses. Vision loss due to cataracts is usually very gradual as cataract cause vision to worsen, making it especially difficult to see fine details clearly **(National Eye Institution, 2023).**

Preventing cataracts among elderly involves adopting a healthy lifestyle and protecting the eyes from factors that accelerate lens damage. Wearing sunglasses that block ultraviolet (UV) rays and wide-brimmed hats can help shield the eyes from excessive sunlight exposure. Maintaining a balanced diet rich in antioxidants, such as vitamins C and E, found in fruits, vegetables, and nuts, supports eye health. Avoiding smoking and limiting alcohol consumption are essential, as these habits are known to increase the risk of cataract formation. Managing chronic conditions like diabetes and hypertension effectively can also reduce the likelihood of developing cataracts. Regular eye examinations are vital for early detection and monitoring of eye health, enabling timely interventions to prevent or delay the progression of cataracts **(Wang et al., 2024).**

Self-care for elderly people with cataracts refers to the set of actions and practices they adopt to maintain their physical, mental, social, and emotional well-being while managing the challenges of vision impairment. It includes attending regular eye examinations, following medical advice, ensuring a safe and accessible environment, and engaging in activities that promote overall health and independence. Additionally, it involves fostering social connections and seeking emotional support to cope with the psychological effects of living with reduced vision. This proactive approach helps them maintain their quality of life and autonomy. A holistic self-care routine empowers elderly individuals with cataracts to maintain their quality of life and independence **(Chu et al., 2024).**

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An educational program for elderly patients with cataracts is a structured set of learning activities and resources designed to inform and empower them about their condition. It focuses on increasing knowledge of cataracts, treatment options, and self-care practices. The program typically includes guidance on maintaining eye health, understanding surgical procedures, managing daily tasks with vision impairment, and adopting preventive measures to enhance safety and quality of life. It may also address emotional and psychological support, fostering independence and confidence in managing the challenges associated with cataracts **(Metwally et al., 2024).**

The role of nurse for elderly people with cataracts involves providing support to manage symptoms, promote safety, and prepare for potential surgical interventions. Nurses should assess the patient's visual acuity and educate them on adaptive strategies to enhance daily functioning, such as using adequate lighting and avoiding clutter to prevent falls. Emotional support is crucial, as vision loss can lead to anxiety or depression. Nurses should also monitor for complications and ensure that any underlying health conditions, such as diabetes, are well-controlled to prevent further eye damage. Regular communication with the patient and family ensures that care is tailored to needs, promoting independence and improving quality of life **(Abdullah et al., 2021).**

Significance of the study:

In Egypt, there is a significant number of people who suffer from blindness and visual impairment. More specifically, around one million individuals are blind, while three million have some form of visual impairment**.** Cataract is the primary cause of visual impairment among the visually impaired population in Egypt, accounting for approximately 60% of the cases. Furthermore, it has been identified as the leading cause of blindness, responsible for n54.8% of blindness cases**(Mahmoud & Ahmed, 2023).**

Cataract pose a major health concern for older individuals in Egypt. A recent study conducted in Egypt and published in 2021 examined a total of 155,032 Egyptians aged 40 and above from 27 different governorates, cataract were identified in 33,610 individuals, accounting for approximately 21.7% of the total number of subjects **(Aziz et al., 2021).**

Initially, cataract may be asymptomatic due to localized clouding, but as they progress, various symptoms such as blurred vision, altered color perception, and glare sensitivity may emerge. In older adults, Cataract has been associated with harmful impacts on health; it increases the risk of developing frailty, falls, fractures, depression, and cognitive impairment, as well as reducing the percentage of the functional reserve with time. Furthermore, low vision poses significant psychological and social stress for those patients and their families, and contributing to the healthcare burden **(Abazaga & Fechtner, 2024).**

Aim of the Study:

This study aims to evaluate the effect of an educational program on improving self-care among the elderly patients with cataract. Through the following:

-Assessing elderly patient's knowledge, reported practice and self-care about cataract at pre & post program.

-Plan and implement educational program for improving self-care among elderly patients with cataract.

-Evaluate the impact of educational program for improving self-care among elderly patients with cataract .

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Hypothesis

Patients knowledge levels, reported practice levels and self-care about cataract will be improved after implementing educational program.

Subjects and Methods:

Subject and methods for this study was portrayed under the four main items as the following:-

I- Technical Item:

The technical item includes research design, setting, subjects and tools for data collection.

Research design:

A quasi experimental research design was used to conduct this study.

Setting: This study conducted at outpatient clinics at Sohag university Hospital. The study was conducted at ophthalmology outpatient clinic in first floor at Sohag university Hospital Which included one rooms, for checkup, The working in this clinic was all the day per week from 9 am to 2 pm except Friday.

Subjects: A purposive sample was used in this study, the total number of elderly with cataract that attending Ophthalmology out-patient clinics in year 2023 were 600 patients.

Sample size: The sample size was calculate by following equation:-

$n=N[1+N (e^2)]$

n=sample size

N=population size is 600

e=,05 is the level of perception

n=600[1+600 (,0025)] =240

The actual size of sample were 240 elderly patient with cataract through year 2023-2024.

Inclusion criteria:-

- Elderly patients age from 60 years and above from both sexes.
- Diagnosed with cataract.
- The Elderly patients agree to participate in the study.

Tools for data collection:

Structured interview questionnaire format was developed by researcher after reviewing of national and international related literature. It consist of four parts:

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Part I:

A) **Demographic characteristics of elderly patients** include age, sex, residence, the work before transfer to pension, marital status, level of education, living condition, source of income and monthly income. It composed of 9 closed /ended question

B) **Past and present medical history of elderly patients with cataract**, include history of chronic disease , When diagnosed with chronic disease, complication of chronic disease, types of surgical operation , times of previous hospitalization , family history of cataract, complaint made the patient consult a doctor, when the complaint begin, place the complaint and symptoms associated with the main complaint. It composed of 8 closed /ended question

Part II :Elderly patients' knowledge about cataract:- Knowledge about cataract, which include meaning of cataract, types , sign & symptom , causes and risk factors , high risk group, methods of diagnosis , complications of cataract, methods of prevention , methods of treatment of and types of surgical operation for treatment of the cataract. It composed of 10 questions

Scoring system:-

Assessment of studied elderly patient knowledge about cataract include complete correct answer was scored 2 grade, incomplete correct answer was scored 1 grade and wrong answer or don't know was scored zero. Total scores were 20 points for 10 items. The score of each item stumped up and then converted into percent score.

Satisfactory knowledge ≥ 60 (≥ 12 scores)

unsatisfactory knowledge < 60 (< 12 scores)

Part III: Elderly patients' reported practices about cataract .

Assess of elderly patient reported practices about cataract developed by **(Abo Bakr et al.,2023)** and include 16 items such as washing hands before eye drops, let the tip of the bottle touch the eye or the eyelid, dropping eye drops according to the prescribed dose, use drops after every shower and at other times as directed, avoiding watching TV for a long time, avoiding exposing the eye to sunlight without sunglasses, avoiding exposure to dirt, flames and dust, avoiding rubbing the eyes, avoiding washing the eyes with soap, use a magnifying glass and stronger light for reading and everywhere, wiping the eye from the inner corner and then the outside, avoiding sleeping on the eye, eating a whole diet based on foods rich in colorful fruits and vegetables, doing exercise, doing eye exercises to improve vision and reduce stress. It composed of 16 questions

Scoring system:

Each item had 2 responses, done was scored 1 grade, not done was scored zero. Total scores were 16 point for 16 items.The score of each item of studied reported practices stumped up and then converted into percent score.

Adequate practices ≥ 60 (≥ 10 scores)

Inadequate practices < 60 (< 10 scores)

Part IV: Self care for elderly patients with cataract

Self-care was developed **by (El Fadawy et al.,2015),** which consists of five domain include physical, emotional , social , psychological and spiritual. It include 32 items. These were categorized as follows: **- physical self-care**: 10 items concerning able to accomplish daily activity, able to go out without help , able to walk for half an hour, able to wake up and down the stairs, sleep well, go to the bathroom without help, eat without help, toileting without help, wear clothes without assistance and eat a variety of nutritious foods (e.g., vegetables, protein, fruits, and grains). **Emotional self-care**:7 items related to have a good appetite ,enjoying meal, able to devote self , deal with stress, concentrate on something ,worry about cataract disease and eat from a balanced diet menu **Social self-care:** 4 items concerning get any encouragement, have problems dealing with people outside family, think family was troubled by getting treatment and worry about social life in the future. **Psychological self-care**: 4 items related to vision problem, feel that a burden on others ,feel depressed , feel a

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loss of confidence in doing usual activities, talk to someone trust about issues. **Spiritual self-care**:7 items related to make time for prayer, meditation, and reflection, spend time in nature, participate in a spiritual gathering, community, or group ,cherish optimism and hope, contribute to or participate in the things believe in ,read inspirational literature and Listen to inspiring music. It composed of 32 questions

Scoring system:

Each item had 3-point Likert scale " always, sometimes and never , which always was scored 3 grade, sometimes scored 2 grade and never was scored 1 grade. **Except the following items** which never was scored 3 grade, sometimes scored 2 grade and always was scored 1 grade

- **Emotional self care** (Feeling couldn't cincetrate on something and worry about cataract disease)
- **Social self care** (Having problem dealing with people outside family, think family was troubled by getting treatment and worry about social life in the future)
- **Psychological self care** (Feeling the burden on others of vision problems and feeling a loss of confidence in doing usual activities because of vision problems)

Total scores were 96 point for 32 items.

The score of each item stumped up and then converted into percent score.

Good Self-care ≥ 60 (58-96 scores)

Poor Self-care < 60 (32-< 58 scores)

Validity:

The developed tool was formulated and submitted to three experts from Community Health Nursing in Faculty of nursing in Helwan University to review relevance of the tools for comprehensiveness, understanding and applicability.

Reliability:

Reliability of the tool was tested to determine the extent to which the questionnaire items are related to each other. Testing the reliability of the tool through Alpha cronbach reliability analysis indicated that:

Tools	Alpha cronbach
Knowledge items	0.82
Reported practices items	0.93
Self-care items	0.84

Ethical considerations:

Ethical considerations was gained from the Scientific Research Ethics Committee of Faculty of Nursing Helwan University. Participation in the study is voluntary and subjects was be given complete full information about the study and their role before signing the informed consent. The ethical considerations was include explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information were be guaranteed. Ethics, values, culture and beliefs were be respected.

II- Operational Item:

The operational item includes Preparatory phase, pilot study and field work.

Preparatory phase:

This phase started with a review of current and past national and international related literature, the most recent available information from the World Health Organization, the Centre for Disease Control Prevention, Egypt Ministry of Health and theoretical knowledge of various aspects of the study by using books, articles, internet periodicals and magazines to develop tools for data collection and the awareness program for elderly patients.

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Pilot study:

A Pilot study has been conducted to test the clarity, applicability and understandability of the tool. It has been conducted on 10% (24) of patients. They have been selected from settings similar to those chosen for the study. The results of the pilot helped in refining the interview questionnaire and to schedule the time framework. The participants of the pilot were included in the main study sample

Field work:

Before conducting the study, official letter was be issued from the dean of Faculty of Nursing Helwan University, and send to the director of sohag university hospital including the aims of the study to obtain permission after establishing a trustful relationship each subject. Interviewed individually by the researcher to explain the study purpose.

The researcher collected data within Six months of academic year (2023-2024) for two days - week (Sundays and Thursdays) from 10-12 am to interviewing elderly patients with cataract, till the needed sample will be completed.

The education program was developed based on the result of pre-test sheet. The plan of education program was prepared, implemented and evaluated the degree of improvement in study group in relation to education program objectives.The educational methods were used in the study include lectures, group discussion. Also, media was be pictures and handouts. Brochure prepared by the researcher.

The educational program included 10 session (6 for theoretical part and 4 for practical part).

By the end of each session, the elderly patients were informed about the content of the next session and its time. At the end of educational program . it was assessed at post program phase by using the same tools at pre program .

The educational Program was conducted through four phases : preparatory, assessment, planning &implementing and evaluation.

- **Preparatory phase:** Tools of data collection development review the past and current related literature covering various aspects of the study by using available books, articles, internet periodicals and magazines. This helped the researcher to be acquainted with the problem and guiding the process of tools' designing
- .**Assessment phase:** Before starting the designed educational program, the study tools was applied to assess elderly patient's knowledge , reported practices and self-care about cataract.
- **Planning and implementing phase :** By developing the educational program content, the aim to improve elderly patient's knowledge , reported practices and self-care about cataract, it was explained to all participants from elderly patient's. The content of the program include include meaning of cataract, types , sign & symptom , causes and risk factors , high risk group, methods of diagnosis , complications of cataract, methods of prevention , methods of treatment of , types of surgical operation for treatment of the cataract, reported practices and self care. The program tailored to suit elderly patients' need.

  The studied elderly patients were divided into 10 groups, each group contained 24 elderly patients. The program was applied through ten sessions, each session took about 25 -30 minute. The program carried out in ophthalmology outpatient clinic at Sohag university Hospital .

  At the beginning of the first session, the researcher welcomes and introduce self to elderly patients, an orientation to educational program was given, take informed consent of elderly patients , set an agreement on the time and duration of sessions. The researcher provides trust , warm and secure atmosphere between elderly patients group to relieve anxiety and increase motivation to participate in all sessions of the educational program. Elderly patients

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were oriented about program sessions (time duration, place and content).Also, the researcher stressed on the importance of continuous attendance and active participation. The pretest questionnaire was given to them (pre program test).

Different teaching and learning methods were used during sessions, which include interactive lecture, group discussion, demonstration, re demonstration, instructional media include pictures and printed handout. :Taking in consideration the use of simple and clear Arabic language that suit the level of elderly patients without ignoring motivation and reinforcement techniques to enhance learning. Inform the elderly patients that each session started by summary about previous session and objectives of new session.

The program was presented in a clear and concise form to be used as memorial reference. Direct reinforcement in the form of a copy the booklet pamphlet was given as reward for each elderly patient to use it as a future reference. Elderly patients were allowed to ask any interpretation or explanation of any item included in the sessions. At the end of every session, the elderly patients were discussed to correct any misunderstanding.

- **Evaluation phase:** After implementation of the educational program, post test was done at the ten session to evaluate the effect of educational program on elderly patient's knowledge , reported practice and self-care about cataract. The post test was done immediately at the end of sessions using the same tools of pretest evaluation.

III. Administrative design:

An official letter requesting permission to conduct the study was obtained from the Dean of Faculty of nursing, Helwan University to the director of the sohag university hospital to obtain their approval to carry out this study. This letter included a permission to collect the necessary data and explain the purpose and nature of the study.

IV. Statistical design:

Data collected from the studied sample was revised, coded and entered using personal computer (PC). Computerized data entry and Statistical analysis were fulfilled using the statistical Package for the Social Science (SPSS), version 25 for analysis. Data were presented using descriptive statistics in the form of frequencies, percentage, chi-square test (x^2) was used for compressions between qualitative variable, quantitative data was expressed as mean ± SD (standard deviation). Pearson correlation coefficient used to calculate correlation between quantitative variable. The significance level for all above mentioned statistical tests done. The threshold if significance is fixed at 5% level (p value)

Results:

Table (1):Shows that,73.3% of studied elderly patients were in age group between 60-<70 years with Mean ± SD was 69.54±0.5, while 60.8% of them were male. Regarding to level of education 42.5% of them had secondary education,74.6% of them were married. Also, 45.0% of them, monthly income had not enough,50.4% of them were lived in urban area ,72.1% of them had the source of income was pension and 84.2% of studied elderly patients were lived with wife or husband.

Figure (1): Clarifies that, there was significant difference between the studied elderly patients total knowledge between pre and post program regarding cataract at (P=0.000). 48.3 % of studied patients' had satisfactory total knowledge level about cataract at pre program. While improved to 91.2 % of them had satisfactory total knowledge level about cataract at post program.

Figure (2): Shows that**,** there was significant difference between the studied elderly patients total reported practices between pre and post program regarding cataract at (P=0.000). 25.0 % of studied patients had adequate total practices level

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about cataract at pre program about cataract. Which improved to 75.0 % of studied patients had adequate total reported practices level at post program about cataract.

Table (2): Reveals that, there was significant difference between the studied patients' self-care dimensions between pre and post program at (P=0.000). Which scores of the studied patients was 43.9875±13.58361 at pre and improved to be 64.90±18.59811 at post program about self-care for cataract.

Figure (3): Illustrates that, there was significant difference between the studied patients' self-care level between pre and post program at (P=0.000).As, 83.70 % of studied patient had poor total self-care at pre program. While improved to 70.40 % of studied patient had good total self-care about cataract at post program.

Table (3): Clarifies that, there was non-significant correlation between the total studied elderly patients knowledge, reported practices and self-care at pre program at (P > 0.05). while, there was high statistically significant positive correlation between the total studied patients knowledge, reported practices and self-care at post program at (P=0.000).

Table (1): Frequency distribution of elderly patients according to demographic characteristics (n=240)

Demographic characteristics	No.	%
Age:-		
60 - <70 years	176	**73.3**
70 - <80 years	35	14.6
≥80years	29	12.1
Mean ±SD **69.54±0.5**		
Sex:-		
Male	146	**60.8**
Female	94	39.2
Educational level:-		
Don't read and write	23	9.6
Read and write	36	15.0
Basic education	38	15.8
Secondary education	102	**42.5**
University education and more	41	17.1
Marital status:-		
Single	0	0.0
Married	179	**74.6**
Divorced	23	9.6
Widow	38	15.8
Monthly income		
Save and enough	98	40.8
Not enough	108	**45.0**
Enough	34	14.2
Place of residence:-		

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Urban	121	**50.4**
Rural	119	49.6
Source of income:-		
The Ministry of Social Solidarity	32	13.3
Pension	173	**72.1**
Agriculture	35	14.6
Living condition:-		
Wife or husband	202	**84.2**
Your sons	17	7.1
Alone	21	8.7

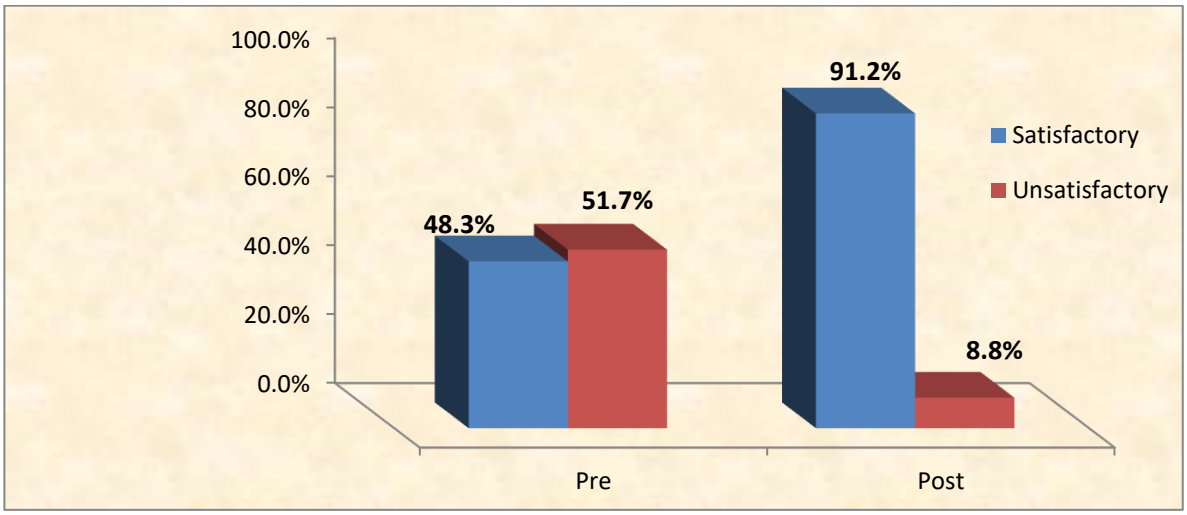

Figure (1): Frequency distribution of studied patients knowledge level regarding cataract at pre & post program (n=240)

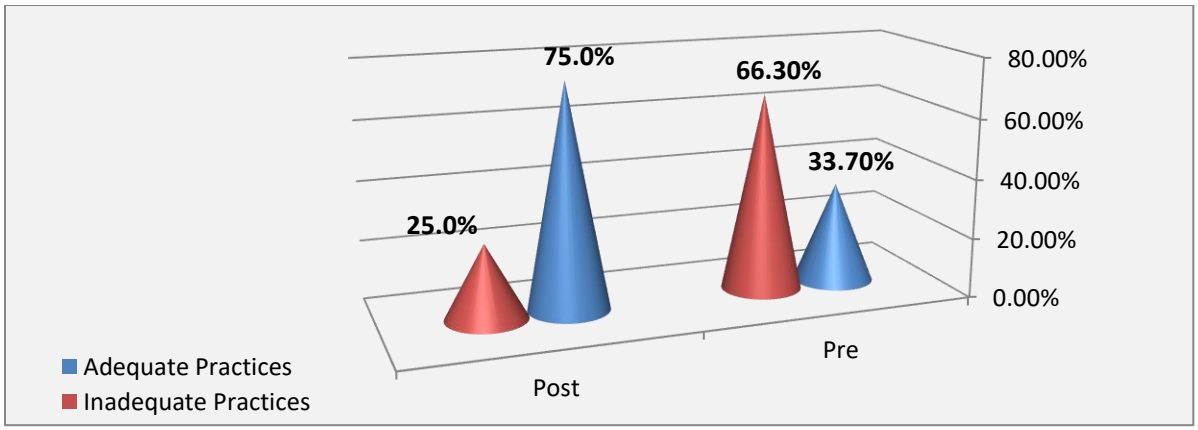

Figure (2): Frequency distribution the studied patients' reported practices level regarding cataract at pre & post program (n=240)

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Table (2): Comparison between total mean scores of the studied patients' self-care dimensions regarding cataract at pre & post program phases (n=240)

Items	Pre Mean± SD	Post Mean± SD	t-test	P-value
physical self-care	13.0792±5.01191	20.2292±7.39116	24.153	0.000**
Emotional self-care	9.9875±3.58108	13.6417±5.10934	13.978	0.000**
Social self-care	5.1375±1.91062	9.2750±2.68722	22.636-	0.000**
Psychological self-care	5.8625±2.45330	7.6625±2.89109	7.642	0.000**
Spiritual self-care	9.9208±3.47826	14.0917±4.66447	13.839-	0.000**
Total	43.9875±13.58361	64.90±18.59811	24.760	0.000**

** Highly statistically significant at p<0.001

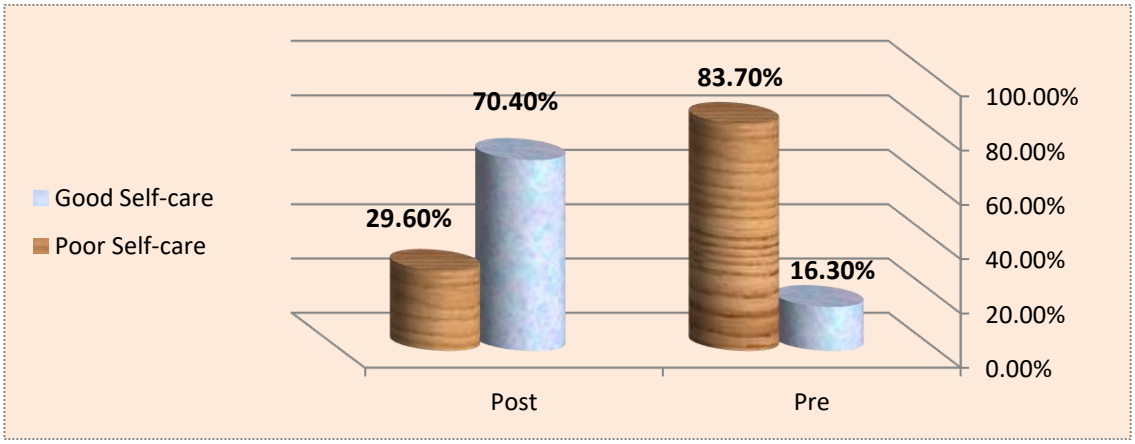

Figure (3): Frequency distribution the studied elderly patients' self-care level regarding cataract at pre & post program (n=240)

Table (3): Correlation between studied elderly patients knowledge, reported practices and self-care regarding cataract at pre & post program (n=240)

Study variables		Knowledge		Reported practices		Self-care	
		r	P	R	p	r	p
Pre	Knowledge	-	-	.186	.491	.155	.323
	Reported practice	.186	.491	-	-	.121	.061
	self-care	.155	.323	.121	.061	-	-
Post	Knowledge	-	-	.915	.000**	.614**	.000**
	Reported practice	.915	.000**	-	-	.596	.000**
	Self-care	.614	.000**	.596	.000**	-	-

**** Highly statistically significant at p<0.001**

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Discussion:

Cataract is one of the chief causes of irreversible blindness worldwide. Importance of initial diagnosis in cataract is of a great value for a valuable management and blindness prevention. Lack of understanding may not only affect the timing of the diagnosis, but also the consumption of eye care facilities. Assessment of awareness is the first stage in the planning of disease management **(Rao et al., 2021)**

Self-care for elderly patients with cataracts involves a comprehensive approach addressing Physically, patients should follow prescribed treatments like eye drops and take safety precautions to prevent falls due to vision impairment. Psychologically, patients may feel anxiety, so providing education and reassurance can help alleviate fears. Socially, maintaining connections with family, friends, and community groups prevents isolation and enhances quality of life. Emotionally, creating a supportive environment where patients can express their concerns fosters a sense of comfort and well-being. Spiritually, encouraging practices like prayer, meditation, or reflection can provide inner peace and resilience, helping them cope with challenges **(Kumar et al., 2023).**

Part 1: Demographic characteristics for elderly patients with cataracts

The present study finding showed that, less than three quarter of studied sample their age ranged between 60-<70. This result was in approved with the study performed by **Desoky et al., (2024)** in Egypt (n=60) entitled as "Effect of Nursing Intervention Guidelines on Knowledge and Self-care Practices among Adult Patients Undergoing Cataract Surgery" and showed that 74% of participants were age ranged between 60-<70 years. From the researcher point of view, this result might be due to this age group considered high risk for cataract disease.

Regarding elderly patients' gender, the current study showed that more than three fifths of studied patient were male. This result was supported with **Kumar et al., (2023)** whose conducted a published study in India (n=616) entitled as "Knowledge among patients about postoperative home self-care following cataract surgery in Northern and Western India" and found that 62% of participants were male. Conversely, this result was in disagreement with **Feng, (2021)**whose conducted a published study in America **(n=600)** entitled as "Gender differences in surgical volume among cataract surgeons" and found that three fifths of participants were female. From the researcher point of view, these results might be due to bad habits as smoking and alcohalism in male more than females .

Regarding elderly patients' residence, the current study showed that more than half of them were lived in urban area. This result was in agreement with **Garg et al., (2021)** whose conducted a published study in India (n=600) entitled as "Risk factors associated with development of senile cataract. On the other hand, this result was in disagreement with **Chen, (2021)** whose conducted a published study in America(n=100) entitled as "Cataract: advances in surgery and whether surgery remains the only treatment in future" who found that more than half of them were lived in rural area. From the researcher point of view, this result may be due to lower social economic status lead to inadequate follow up to detect cataract early in rural than urban.

Regarding marital status of elderly patient's, the current study showed that slightly less than three quarters of them were married. This result was in agreement with **Mima et al., (2020)** whose conducted a published study in

ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
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China(n=122) entitled as "The impact of cataract surgery on vision-related quality of life for cataract patients" and found that 74.3% of participants were married.

Regarding to level of education, the current study showed that more than two fifths of studied patients had secondary education. This result was congruence with **Zuo et al., (2024)** whose conducted a published study in China (n=120) entitled as "Study on the impact and clinical effect of high-quality nursing intervention on the quality of life of elderly cataract patients" and found that 43.8% of participants had secondary education. In contrast, this result was in disagreement with **Reis et al., (2022)**" whose conducted a published study in Brazil (n=472) entitled as "Association between axial length and level of education in elderly patients with cataracts unexposed to electronic devices in the first two decades of life" and found that majority of participants don't read and write. From the researcher point of view, this difference may be due to elderly patients that participated in this study live in rural area and due to decrease awareness about the importance of education.

As regards living condition, the current study revealed that majority of studied patients was lived with wife or husband. This result was supported with **Miura et al., (2021)** whose conducted a published study in Japan (n=54) entitled as "Effects of Cataract Surgery on Vision-Related Quality of Life in Patients with Retinitis Pigmentosa and the Predictive Factors of Quality of Life Improvement" and found that majority of participants were lived with their families. From the researcher point of view, this result may be due to elderly in this age were lived with their wives or husband and majority patients with cataract were inability to care themselves.

Concerning to source of income, the current study revealed that more than two third of them the source of income was pension. This result was congruence with **Khoza et al., (2020)** who conducted a study in South Africa(n=467) entitled as "Survey on prevalence of cataract in selected communities in Limpopo Province of South Africa" and found that 74% of participants had income from pension. In contrast, this result was in disagreement with **Pereira et al., (2021)** who conducted a study in Brazil (n=53) entitled as "Evaluation of visual function and vision-related quality of life in patients with senile cataract" and found that 20% of participants the source of income was pension. From the researcher point of view, this result may be due to elderly people were retirement period and had income from pension.

Regarding to monthly income, the finding of the current study revealed that, more than two fifths of the studied elderly patient had monthly income not enough. These result approved with the study performed by **Fikrie et al., (2021)** whose conducted a published study in s Ethiopia(n=599) entitled as " Knowledge about cataract and associated factors among adults " whose stated that 46% of the studied sample their monthly income were not enough. From the researcher point of view, these results might be due to the high cost of living and insufficient monthly income .

Part II: Elderly patients' knowledge about cataract

Regarding total knowledge about cataract, the current study showed that more than two fifths of studied elderly patients had satisfactory knowledge about cataract pre the program, while improved to most of them had satisfactory knowledge about cataract post program implementation. This finding was consistent with by **Moladoost et al., (2021)** whose conducted a published study in Iran (n=64) entitled as " The effects of an interdisciplinary supportive educational program on anxiety among patients undergoing cataract surgery " and revealed that, there was a market improvement in

ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
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patient's knowledge regarding cataract at post program implementation as evidence, the most of studied patients had satisfactory knowledge regarding cataract. From researcher point of view, this result might be due effectiveness of educational program for elderly patient to improve knowledge about cataract .

Also, these current results were supported with the study performed by **Chen et al., (2022)** whose conducted a published study in china (n=220) entitled as " Educational interventions to improve functional outcomes in older adults with cataracts " and revealed that that, knowledge score increased significantly after educational program implementation. On other hand, this result was disagreement with the finding from study performed **Pumpaibool et al., (2021)** whose conducted a published study in Myanmar (n=169) entitled as " Door-to-door eye health education to improve knowledge, attitude, and uptake of eye care services among elderly with cataracts " and stated that, more than 80% of responded had a high satisfactory knowledge about cataract during assessment without educational program implementation. From researcher point of view, this discrepancy could be due to a difference in the tools used to assess knowledge level and educational level among studied sample.

Part III:- Elderly patients reported practices about cataract

Concerning to total reported practices regarding cataract among elderly patients, the current study revealed that there was a high statistical significant difference between pre and post educational program in elderly patients' total reported practices regarding cataract. Also, less less than two fifths of studied elderly patients had adequate total reported practices about cataract pre the program, while improved to three quarters of them had adequate total reported practices about cataract post program implementation.

This result were similar to **El Shafaey et al., (2021)** whose conducted a published study in Egypt (n= 70) entitled as " Effect of implementing teaching program on knowledge and practice of nurses and clinical outcomes of patients post cataract surgery " whose reported that the studied patients' total reported practices increased significantly after educational program implementation. In addition, this result was in agreement with **Taha, (2021)** who reported that the studied patients' performance was improved after the educational program implementation. From researcher point of view, this result might be due the educational program typically include clear, structured instructions and materials that make it easier for elderly patients to comprehend and retain information, especially considering age-related cognitive challenges

Part IV:- Self care for elderly patients with cataract

Regarding to **total self care** about cataract, the current study showed that less than one fifth of studied elderly patients had good self care about cataract pre the program, while improved to more than two thirds of them had good self care about cataract post program implementation. This finding was consistent with by **Metwally et al., (2024)** whose conducted a published study in Egypt (n=60). entitled as " Impact of Incorporating a Self-care Management Program with Telephone Follow-up on Geriatric Patients' Self-care Compliance and Coping Post Cataract Surgery " whose found that, there was a market improvement in the studied patient's self care regarding cataract at post program implementation. In addition, this result was in accordance with the result of the study performed by **Desoky et al., (2024)** whose found less than one quarter of studied elderly patients had good self care about cataract pre the program, while improved to more than half of them had good self care about cataract post program implementation. From researcher point of view, this result might be due improve knowledge lead to improve self care at post program.

ISSN 2786-0183
Helwan International Journal for Nursing Research and Practice
Vol. 4, Issue 11, Month: September 2025, Available at: https://hijnrp.journals.ekb.eg/

Part VI: Correlation between study variables

Related to the correlation between studied elderly patients knowledge and their reported practices at post program, the current study showed that, there were highly statistically positive correlation between total knowledge among studied patients regarding cataract and their reported practices at post educational program (P = < 0.0001). These result were harmony with study by **Taha, (2021)** Who found that were was statistically positive correlation between total knowledge among studied patients regarding cataract and their reported practices. This result might be due to increase knowledge lead to improve reported practices.

Related to the correlation between studied elderly patients knowledge and their self-care at post program, the current study showed that, there were highly statistically positive correlation between total knowledge among studied patients regarding cataract and their self-care at post educational program (P = < 0.0001). These result were agree with study by **Dessie et al., (2021).** whose conducted a published study in Ethiopia (n=186).entitled as " Effectiveness of a preoperative teaching programme for cataract patients " Whose found that were was statistically positive correlation between total knowledge among studied patients regarding cataract and their self-care. This could be explained as ; correct knowledge was higher among elderly patients with good self-care.

Related to the correlation between studied elderly patients reported practices and their self-care at post program, the current study showed that, there were highly statistically positive correlation between total reported practices among studied patients regarding cataract and their self-care at post educational program (P = < 0.0001). These result were agree with study by **Jalilian et al., (2023)** whose conducted a published study in Iran (n=120). entitled as " Effectiveness of education program on increasing self management among patients with cataract " Whose found that were was statistically positive correlation between total reported practices among studied patients regarding cataract and their self-care. This result might be due to positive reported practices lead to good self-care.

Conclusion:

Based on the study findings and research hypothesis, it could be concluded that :

The results of the study supported the research hypothesis which showed that, more than two fifths of elderly patients had satisfactory knowledge at pre program which improved to mostly of them had satisfactory knowledge at post program. Concern to elderly patients' reported practice, less than two fifths of elderly patients had adequate reported practice at pre program which improved to three quarters of them had adequate reported practice at post program. As regard elderly patients' self-care, the majority of elderly patients had poor self-care at pre program which improved to three quarters of them had good self-care at post program.

Recommendations:

In the light of the findings of the present study, the following recommendations are suggested:

1. Continuing educational programs for elderly patients to improve knowledge, practices & self care about cataract.
2. Dissemination of booklet and posters about self care for patient with cataract.
3. Ophthalmic nurses should receive periodic in-service training programs to improve, update, refreshing their knowledge and practice regarding cataract and eyes diseases. Also -Constructive supervision and follow up should be based on guidelines for application of standardized nursing procedure.

4. Apply further research in large sample and other setting for generalization.

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