



## Quality of life for elderly patients with cataract

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### Abstract

**Background:** Cataract is the second cause of visual impairment and the first cause of blindness globally. Poor vision may result in an increased risk of falling and lower quality of life (QOL).

**Aim of the study:** The present study aimed to assess the quality of life for elderly patients with cataract.

**Design:** A descriptive research design was utilized to conduct this study.

**Sample:** A purposive sample was equal 240 elderly patients with diagnosis of cataract.

**Setting:** The study was conducted in the Ophthalmology out-patient clinics at Sohag University Hospital.

**Tools:** Two tools were used for data collection in the present study, the first tool was an interview questionnaire consisted of three parts to collect the necessary data about elderly subjects include: 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 and Part III: Elderly patients reported practice about cataract. The second tool was Quality of life for elderly patients with cataract.

**Result:** The study results revealed that, 80.0% of studied sample had unsatisfactory knowledge about cataract, 60.0% of studied sample had inadequate reported practice about cataract, and 71.8% of the studied sample had poor quality of life.

**Conclusion:** There was highly significant positive correlation between total knowledge scores and total QOL scores regarding cataract among he studied sample.

**Recommendations:** The study recommend implementation of educational program for patients about cataract management.

**Keywords:** determine, stress, Zumba, effectiveness, intervention

### Introduction

Elderly is a complex and dynamic process with interrelated physiologic, psychologic and sociologic components. It is a normal process that implies continued growth, development and adaption until death. The growth of the elderly population has resulted from a general increase in the overall population size in several of the leading causes of mortality (Abd Alla *et al.*, 2019) <sup>[1]</sup>.

A cataract is a clouding or a discoloration of the crystalline lens of the eye which leads to a reduce in vision. Cataract is the leading cause of blindness, affecting an estimated 20 million people, because people growth and increased longevity. This is expected to increase to 50 million by the year 2050 if no additional interventions are implemented (Flayeh, 2017) <sup>[7]</sup>

Quality of life (QoL) is a multidimensional concept that includes evaluations of both positive and negative aspects of person's life. While health related to quality of life (HRQoL) includes physical and mental health perceptions (health conditions, social and socioeconomic status) and community- level resources, conditions (Practices that influence health perceptions and functional status. QoL

includes the following six domains: social well-being, physical well-being, psychological well- being, spiritual well-being, cognitive will-being and environmental will-being (Trikkalinou *et al.*, 2017) <sup>[14]</sup>.

### Aim of the study

The aim of this study is to assess the quality of life for elderly patients with cataract. Through the following objectives

1. Assessing the elderly patient's knowledge about cataract.
2. Assessing the elderly patient's reported practice about cataract.
3. Assessing quality of life for elderly patients with cataract.

### Research question

1. What are the elderly patient's knowledge about cataract?
2. What are the elderly patient's reported practice about cataract?
3. What are the level of quality of life for elderly patients

with cataract?

4. Is there relation between elderly patient's knowledge, reported practice, quality of life for cataract patient's and their demographic characteristic?

### Subject and Methods

The subject and methods for this study will portray under the four main items as follows:

I- Technical item. II- Operational item.

III- Administrative item. IV- Statistical item.

### Technical Item

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

### Research design

A Descriptive research design will be used in this study.

### Setting

The study will be conducted in Ophthalmology out-patient clinics at Sohag University Hospital.

### Sampling

#### Type of the sample

A purposive sample of elderly patients diagnosed with cataract.

### Sample size

The sample size was calculate by following equation:

$$n=N [1+N (e2)]$$

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 academic year 2020-2021.

### Sample criteria

#### Inclusion criteri

1. Elderly patients age from 60 years and above.
2. Diagnosed with cataract.
3. Willing to participate in the study.

### Tools for data collection

Data will collected through using the following tools

#### 1<sup>st</sup> tool

**Structured interviewing questionnaire sheet:** will be used in the study, it is developed by investigator after reviewing the national and international related literature and contains three parts.

#### Part I

- a) Demographic characteristic of the elderly patients with cataract such as age, sex, marital status, level of

education, place of residence and monthly income.

- b) Past and present medical history of elderly patients with cataract include: onset of the disease, if suffering from chronic disease and family history of cataract,..... etc.

**Part II:** The elderly patients knowledge about cataract include: Meaning, types, sign and symptoms,.....

**Part III:** Elderly patients reported practice about cataract which include: Do you drop eye drops according to the prescribed dose, do you wash your hands before eye drops,.....etc.

#### 2<sup>nd</sup> Tool

Quality of life assessment questionnaire for elderly patients with cataract. This tool was developed by Mohamed (2018) <sup>[11]</sup>, which consists of 14 items asking about the adverse effects of visual dysfunction on elderly QOL. These are categorized as follows:

**Self-Care:** 4 items concerning bathing, eating, dressing and toileting.

**Mobilization:** 3 items related to walking to the homes of neighbors, walking to shop, and doing household chores.

**Social:** 4 items concerning attending social functions and meeting with friends.

**Mental or psychological:** 3 items related to feeling of a burden on others, and loss of confidence.

**Scoring system for Quality of Life:** Each item have 3-point Likert scale "never, sometimes, and always." These are scored from one to three respectively. The scores of the items of each of the four categories and of the total scale are summed-up so that a higher score indicates a higher adverse effect of visual dysfunction on QOL, while lower score indicates good QOL. The total score converted into percent scores. A score of 60% or more was considered as low QOL, whereas a score less than 60% were considered high QOL. The total score converted into percent scores as:

- Higher QOL > 60 (14-25).
- Lower QOL ≥ 60 (25-42).

#### Validity

The developed tool will be formulated and submitted to five experts in geriatric nursing to assess the content validity, needed modifications will be done.

#### Reliability

Cronbach's Alpha will be used to determine the internal reliability of the tool.

## Result

**Table 1:** Number and percentage distribution of studied elderly patients knowledge about cataract (n=240)

Elderly patient Knowledge	Complete answer		Incomplete answer		Don't know Incorrect/	
	No.	%	No.	%	No.	%
Meaning of cataract	50	20.8	140	58.4	50	20.8
Types of cataract	35	14.6	145	60.4	60	25.0
Signs and symptoms of cataract	100	41.7	100	41.7	40	16.6
Causes and risk factors of cataract	80	33.3	90	37.5	70	29.2
High risk group	55	22.9	105	43.8	80	33.3
Methods of diagnosing for cataract	90	37.5	90	37.5	60	25.0
Complications of cataract	140	58.4	60	25.0	40	16.6
Methods of prevention for cataract	35	14.6	155	64.6	50	20.8
Methods of treatment cataract	100	41.6	85	35.5	55	22.9
Types of surgical operation for treatment of cataract	80	33.3	100	41.7	60	25.0

**Table 2:** Number and percentage distribution of studied elderly patients reported practice about cataract (n=240)

Items of reported practices	Always		Sometimes		Never	
	No.	%	No.	%	No.	%
Wash hands before eye drops	50	20.8	140	58.4	50	20.8
Let the tip of the bottle touch the eye or the eyelid	80	33.3	120	50.0	40	16.7
Drip different drops every 5 minutes	40	16.7	150	62.5	50	20.8
Drop eye drops according to the prescribed dose	100	41.6	120	50.0	20	8.4
Use drops after every shower and at other times as directed	70	29.2	100	41.6	70	29.2
Avoid watching TV for a long time	60	25.0	60	25.0	120	50.0
Avoid exposing the eye to sunlight without sunglasses	70	29.2	70	29.2	100	41.6
Avoid exposure to dirt, flames and dust	80	33.4	110	45.8	50	20.8
Avoid rubbing the eyes	60	25.0	100	41.6	80	33.4
Avoid washing the eyes with soap	90	37.5	110	45.8	40	16.7
Use a magnifying glass and stronger light for reading and everywhere	90	37.5	100	41.6	50	20.9
Wipe the eye from the inner corner and then the outside	70	29.2	90	37.5	80	33.3
Avoid sleeping on the eye	80	33.3	120	50.0	40	16.7
Eat a whole diet based on foods rich in colorful fruits and vegetables				33.4	50	20.9
Practicing regular exercise	30	12.5	70	29.2	140	58.4
Practicing eye exercises to improve vision and reduce stress	30	12.5	100	41.6	110	45.8

**Table 3:** Number of percentage distribution of elderly patients about level of quality of life about cataract (n=240)

Items	Always		Sometimes		Never	
	No.	%	No.	%	No.	%
<b>1- Personal care</b>						
There are problems in showering without assistance because vision	40	16.7	150	62.5	50	20.8
Eat without help	10	4.2	70	29.2	160	66.6
There are problems in wearing clothes without assistance because vision	100	41.6	120	50.0	20	8.4
Going to the bathroom without help	80	33.3	120	50.0	40	16.7
<b>2- Mobility</b>						
Going to the neighbors without help	30	12.5	70	29.2	140	58.4
Shopping without help	40	16.7	150	62.5	50	20.8
Doing the usual housework without help	70	29.2	70	29.2	100	41.6
<b>3- Social activities</b>						
Feeling unprepared to participate in wedding parties because of vision problems	100	41.6	120	50.0	20	8.4
Feeling less inclined to attend funerals because of vision problems	90	37.5	110	45.8	40	16.7
Feeling less interested to participate in festivals because of vision problems	80	33.3	120	50.0	40	16.7
Feeling less interested to meet friends and relatives needs because of vision problems	30	12.5	100	41.6	110	45.8
<b>4-Mental status</b>						
Feeling the burden on others because of vision problems	50	20.8	140	58.4	50	20.8
Feeling depressed because of vision problems	70	29.2	70	29.2	100	41.6
Feeling a loss of confidence in doing usual activities because of vision problems	80	33.3	120	50.0	40	16.7

**Table 4:** Correlation between total knowledge scores and total quality of life scores regarding cataract among studied elderly patients (n=240).

Total QOL scores	Total knowledge scores				r	P
	Satisfactory (n=48)		Unsatisfactory (n=192)			
	No.	%	No.	%		
Poor (n= 172)	33	68.7	139	72.3	0.38	<0.001**
Good (n=68)	15	31.2	53	27.6		

**Table 5:** Correlation between total reported scores and total quality of life scores regarding cataract among studied elderly patients (n=240).

Total QOL scores	Total reported practice scores				r	P
	Adequate (n=96)		Inadequate (n=144)			
	No.	%	No.	%		
Poor (n= 172)	67	69.7	105	72.9	0.42	<0.001 **
Good (n=68)	29	30.2	39	27		

**Table 6:** Correlation between total reported practice scores and total knowledge scores regarding cataract of the elderly patients (n=240).

Total reported practice scores	Total knowledge scores				r	P
	Satisfactory (n=48)		Unsatisfactory (n=192)			
	No.	%	No.	%		
Adequate (n=96)	35	72.9	61	31.7	0.37	<0.001**
Inadequate (n=144)	13	27	131	68.2		

## Discussion

### Answer research question (Q1) elderly patient's knowledge about cataract

Regarding elderly patients knowledge about cataract, the current study clarified that, more than half of the studied sample had incomplete answer about meaning of cataract, types and methods of prevention for cataract. Also, more than one third of them had incomplete answer about signs and symptoms, causes and risk factors of cataract, high risk group, methods of diagnosing, and types of surgical operation for treatment of cataract. This result was supported with Makabe *et al.*, (2020) [8] who conducted a study in Japan entitled as “Influence of cataract surgery for the first or second eye on vision-related quality of life (VR-QOL) and the predictive factors of VR-QOL improvement” and found that more than half of participants had incomplete answer about meaning of cataract and types of cataract. Also, this result was agreement with Alshammari *et al.*, (2019) [3] who conducted a study in Saudi Arabia entitled as “Quality of life of visually impaired elderly patients in King Khalid University Hospital outpatient clinics during 2019-2020” and found that more than half of participants had incomplete answers about cataract disease. From the investigator point of view, this result may be due to elderly people hadn't good knowledge about cataract disease and not reading about cataract disease.

### Answer research question (Q2), Elderly patients reported practice about cataract

Regarding elderly patients reported practice about cataract, the current study showed that, more than half of studied sample sometimes wash hands before eye drops, let the tip of the bottle touch the eye or the eyelid and drip different drops every 5 minutes. Also, more than one third of them sometimes use drops after every shower and at other times as directed, avoid exposure to dirt, flames and dust, avoid rubbing the eyes, use a magnifying glass and practicing eye exercises to improve vision and reduce stress. This result was in agreement with Duman *et al.*, (2019) [6] whose conducted a published study in Turkey entitled “Impact of

cataract surgery on functional balance skills of adults” and found that more than half of participants had sometimes wash hands before eye drops, let the tip of the bottle touch the eye or the eyelid and drip different drops every 5 minutes. Conversely, this result was in disagreement with Verdina *et al.*, (2021) whose conducted a published study in Italy entitled as “Evaluation of the impact of cataract surgery on cognitive function in very elderly patients” and found that more than half of elderly people had always wash hands before eye drops, let the tip of the bottle touch the eye or the eyelid and drip different drops every 5 minutes. From the investigator point of view, this result may be due to elderly patients had inadequate practice with taking of medication.

Also, more than two fifths of them sometimes avoid exposure to dirt, flames and dust, avoid rubbing the eyes, avoid washing the eyes with soap, wipe the eye from the inner corner and then the outside and avoid sleeping on the eye. This result was in agreement with Mohamed, *et al.*, (2018) [11] whose conducted a published study in Egypt entitled as “Quality Of Life of Elderly Patients with Cataract” and found that more than Two fifth of elderly patients sometimes avoid exposure to dirt, flames and dust, avoid rubbing the eyes, avoid washing the eyes with soap, wipe the eye from the inner corner and then the outside and avoid sleeping on the eye. In contrast, this result was in disagreement with Miura, *et al.*, (2021) [9] whose conducted a published study in Japan 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 more than two fifths of elderly people never avoid exposure to dirt, flames and dust, avoid rubbing the eyes, avoid washing the eyes with soap, wipe the eye from the inner corner and then the outside and avoid sleeping on the eye. From the investigator point of view, this result may be due to elderly people with cataract were adapted with their disease and interested by themselves

### Answer research question (Q3) level of quality of life for elderly patients with cataract

Regarding quality of life of studied elderly patients about cataract in relation personal care, the current study clarified that less than two thirds of them sometimes there are problems in showering without assistance because vision. Half of them sometimes wearig cloths without assistance and going to the bathroom without help. This result was accordance with Marmamula *et al.*, (2021) whose conducted study in India entitled as " Visual outcomes after cataract surgery among the elderly residents in the „homes for the aged " who found that more than half of participants had problems in their life without assistant, and needed to assist in their life. Conversely, this result was in disagreement with Ye *et al.*, (2020) whose conducted a published study in China entitled as "Knowledge about benefits and risks of undergoing cataract surgery among cataract patients" and found that more than one third of participants were adapted with their life. From the investigator point of view, this result may be due to elderly patients needed to assist in their life due to impaired vision.

In relation to mobility domain quality of life, the current study clarified that less than one third of studied elderly patients sometimes going to the neighbors without help and doing the usual housework without help. In addition more than three fifths of them sometimes shopping without help. This result was accordance with Shafrin *et al.*, (2017) <sup>[13]</sup> whose conducted a study in America entitled as "The association between observed mobility and quality of life in the near elderly" and found that 47% of participants had problems in mobility without assistant and needed to assist in their life. Also, this result was agreement with Pellegrini (2020) whose conducted a study in Italy entitled as "Impact of cataract surgery on depression and cognitive function" and found that more than half of participants were had problems in mobility without assistant and no needed to assist in their life. From the investigator point of view, this result may be due to elderly patients needed to assist due to impaired vision.

In relation to social activity domain quality of life, half of studied patients sometimes feeling unprepared to participate in wedding parties because of vision problems and Feeling less inclined to participate in festivals of vision problem. In addition more than two fifths of them sometimes feeling less inclined to attend funerals because of vision problems and feeling less interested to meet friends and relatives needs because of vision problems. This result was in agreement with Berríos *et al.*, (2020) <sup>[4]</sup> whose conducted a study in Mexico entitled as "Effect of cataract surgery on contrast sensitivity and quality of life in patients with different types of cataract" and found that half of them sometimes feeling unprepared to participate in wedding parties because of vision problems and feeling less inclined to participate in festivals of vision problem.

Also, this result was agreement with Al Habash and Nagshbandi, (2020) <sup>[2]</sup> whose conducted a study in Saudi Arabia who found that 5% of participants sometimes feeling unprepared to participate in wedding parties and Feeling less inclined to participate in festivals of vision problem. From the investigator point of view, this result may be due to elderly patients with cataract suffered from depression and anxiety due to impaired vision.

In relation to mental status domain quality of life, more half

of studied elderly patients sometimes feeling the burden on others because of vision problem, half of them feeling a loss of confidence in doing usual activities because of vision problem. This result was in agreement with Pellegrini *et al.*, (2020) whose conducted a study in Italy entitled as "Impact of cataract surgery on depression and cognitive function" and found that 53% of participants sometimes feeling the burden on others and feeling a loss of confidence in doing usual activities because of vision problem.

Conversely, this result was in disagreement with Miyata, *et al.*, (2018) <sup>[10]</sup> whose conducted a study in Japan entitled as "Effect of cataract surgery on cognitive function in elderly" who found that less than one third of participants sometimes feeling the burden on others and feeling a loss of confidence in doing usual activities because of vision problem. From the investigator point of view, this result may be due to elderly patients with cataract they want to feel that they were not dependent on anyone.

Regarding correlation between total knowledge scores and total quality of life scores about cataract among studied elderly patients, the current study showed that, there was highly significant positive correlation between total knowledge scores and total QOL scores regarding cataract among the studied sample. This result was in agreement with Murthy *et al.*, (2018) <sup>[12]</sup> whose conducted a published study in Sri Lanka entitled as "Impact of blindness, visual impairment and cataract surgery on quality of life and visual functioning among adults aged 60 years and above" and found that there was a significant positive correlation between total knowledge scores and total QOL scores regarding cataract. From the investigator point of view, this result may be due to that satisfactory knowledge of patient with cataract makes patients able to manage disease and improve quality of life.

Regarding correlation between total reported scores and total quality of life scores about cataract among studied elderly patients, the current study showed that, there was highly significant positive correlation between total reported practices scores and total QOL scores regarding cataract among the studied sample. This result was supported with Al Habash, & Nagshbandi, (2020) <sup>[2]</sup> whose conducted a study in Saudi Arabia entitled as "Quality of life after combined cataract and minimally invasive cataract surgery in elderly patients" and found that there was highly significant positive correlation between total reported practices scores and total QOL scores regarding cataract. From the investigator point of view, this result may be due adequate reported practice improve quality of life about cataract among studied elderly patients.

Regarding correlation between total reported practice scores and total knowledge scores about cataract among studied elderly patients, the current study showed that, there was highly significant positive correlation between total knowledge scores and total reported practice scores regarding cataract among the studied sample. This result was accordance with Makabe, *et al.*, (2020) <sup>[8]</sup> whose found that there was highly significant positive correlation between total knowledge scores and total reported practice scores regarding cataract. From the investigator point of view, this result may be satisfactory knowledge patients with cataract improve total reported practice related cataract among studied elderly patients.



## Conclusion

On the light of results of the current study and answers of the research questions, it concluded that, there was 80.0% of studied sample had unsatisfactory knowledge about cataract while 20.0% of them had satisfactory knowledge about cataract. also, 60.0% of studied sample had inadequate reported practice about cataract, while 40.0% of them had adequate reported practice about cataract. There is 71.8% of the studied sample had poor quality of life while 28.2% of them had good quality of life. There were highly statistically significant relation between total scores of QOL of studied sample and their age, place of residence, marital status, level of education and monthly income at ( $p = <0.001$ ). there is statistically significant relation between total scores of knowledge of studied sample and their age, level of education and monthly income at ( $p = <0.001$ ). There is significant positive correlation between total knowledge scores and total QOL scores regarding cataract among the studied sample at ( $p = <0.001^{**}$ ) & ( $r = 0.38$ ).

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