

## DEVELOPING POSTOPERATIVE SELF CARE GUIDELINE FOR PATIENT UNDERGOING CATARACT SURGERY

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### Abstract:

Cataract is considered a significant global health problem and is the most frequent cause of visual impairment. Aim: this study aimed to develop postoperative self-care guideline for patients undergoing cataract surgery through the following: (1) Assessment of post operative self-care knowledge for patient undergoing cataract surgery. (2) Developing postoperative self-care guidelines for patients undergoing cataract surgery. (3) Validating the developed guideline through reviewing by experts. Design: A descriptive design. Subjects: 150 adult patients undergoing cataract surgery were included in the study. Tools for data collection: I- Patient's postoperative cataract surgery self-care knowledge assessment questionnaire. II- Patient's observational checklist for eye medication administration. Results: The present study found that, more than half of the studied patients had unsatisfactory knowledge about self care after cataract surgery. 78.0 % of the studied sample had inadequate practice regarding eye medication administration. The conclusion: Information about eye hygiene and activities of the daily living are the most prevalent needed information. Moreover, most of the studied subjects need information about administration of eye ointment and eye drop. The postoperative self-care guideline for patients undergoing cataract surgery was developed by the researcher according to patients' need. Recommendations: Health education program should be prepared for the patients undergoing cataract surgery and their families about disease management, postoperative care and prevention of cataract surgery complications.

**Keywords:** *cataract surgery, self care guideline*

### Introduction:

Cataract refers to the clouding of the crystalline lens of the eye that interferes with visual function. It is the most common cause of vision loss in people over age 40 and is the principal cause of blindness in the world. The patient may have a cataract in one or both eyes. If present in both eye cataract may affect the patient vision more than the other.<sup>1</sup>

Cataract may be acquired congenitally, as result of aging process, caused by injury to the lens, or secondary to other eye disease. Most cataract results from degenerative change associated with aging and develop slowly. High incidences of cataract occur among people with diabetes and those with family history.

Prolonged exposure to ultraviolet rays, radiation or certain drugs has been associated with cataract formation. In all case, vision decrease because light no longer has a transparent pathway to the retina.<sup>2</sup>

Cataract can be removed surgically which is one of the most common and most effective surgical procedure in any field of medicine. It is defined as the removal of the opacified lens and replacement with a synthetic lens known as an intraocular lens. The surgery is undertaken when the lost vision impact on person quality of life.<sup>3</sup>

The term self-care describes the actions that an individual might take in

order to reach optimal physical and mental health. Mental health professionals often use the term self-care to refer to one's ability to take care of the activities of daily living (ADLs), such as feeding oneself, showering, brushing one's teeth, wearing clean clothes, and attending to medical concerns.<sup>4</sup>

The nurse has an important role in educating patient about cataract and proper management to prevent complications after operation. Postoperative instruction should be discussed with patient and significant other prior to surgery. Instruction about self-care after surgery should include eye care, medication, activity, diet, complications and follow up. The purpose of the nursing guideline is to enhance the quality, safety, effectiveness and availability of care for patient with cataract.<sup>5</sup>

#### **Significance of the study:**

In Egypt, there are approximately 1 million peoples are blind and 3 million are visually impaired. Nearly 60% of the visually impaired in Egypt have cataract.<sup>6</sup> The number of patients undergoing intraocular surgery admitted to ophthalmology surgical unit at Benha university hospital in the last three years (2013, 2014 & 2015) were approximately 1830, 1166 and 2000 patients respectively. Patients who have undergoing cataract surgery procedure often have concern regarding the postoperative self-care activities after their discharge from the hospital. The most common concerns were daily activities, complications, medications administration and follow up. Providing postoperative self-care guidelines improves clinical outcomes, reduce cost of care and facilitate health decision making after discharge.<sup>7</sup>

If cataract surgery patient receive insufficient or inadequate knowledge of postoperative care after surgery, numerous complication would occur any time. Therefore, it is vital to ensure that patients'

informational needs have been met prior to hospital discharge for successful self-care and recovery at home; therefore, this study was conducted to develop self care guideline for those patients based on their needs.

#### **Aim of the study:**

The aim of this study is to develop postoperative self-care guideline for patients undergoing cataract surgery through the following:

- A- Assessment of post operative self care knowledge for patients undergoing cataract surgery.
- B- Developing postoperative self-care guidelines for patients undergoing cataract surgery.
- C- Validating the developed guideline through reviewing by experts.

#### **Research Question:**

To achieve the aim of this study the following research question is formulated.

- What are the self-care informational needs for patients with cataract surgery?

#### **Subjects and Methods:**

##### **I. Technical design:**

##### **Research design**

Across-sectional descriptive research design was utilized to achieve the aim of the study.

##### **Study setting**

The study was conducted at ophthalmology surgical inpatient unit affiliated to Benha university hospital.

##### **Subjects**

A convenience sample of all patients with cataract surgery who admitted to the ophthalmology surgical unit at Benha University Hospital during six months of data collection and agrees to participate in the study.

##### **Tool for data collection:**

Two tools for data collection were used as follow:

##### **I. Patients' postoperative cataract surgery self-care knowledge assessment questionnaire.**

This questionnaire was developed by the researcher in Arabic language after reviewing the recent related literatures. It involved the following two parts:

**Part I. Patient's demographic data:**  
this part includes:

- a- Patients' demographic characteristics related to age, gender, residence, education level, type of work and marital status.
- b- Patient's medical history includes chronic diseases, other eyes diseases, family history of cataracts and smoking.

**Part II. This part concerned with assessment of patients' knowledge.** It consists of three parts: knowledge about operation and anesthesia, complications and self care after cataract surgery.

**Scoring system:** The right answers were given one score and the wrong answer were given zero score. These scores were summed-up and converted into a percent score. Then categorized as follow:

- Score < 75 referred to unsatisfactory.
- Score >75 referred to satisfactory.

**II. Patients' observational checklists:** These checklists were adapted from 9 and modified by researcher to assess patients' practice regarding the following:

- Administration of eye ointment, (11 items).
- Administration of eye drops, (12 items).

**Scoring system:**

The response to each item in the procedure was categorized into done and not done. One score was given for each correctly done step and zero for each incorrect step. Total scores for every checklist was calculated and converted into percent, then categorized as follow:

- Score < 75 referred to Inadequate.
- Score > 75 referred to adequate.

**II. Operational design:**

▪ **Preparatory phase**

This phase included reviewing both national and international literatures related to cataract surgery and

postoperative self-care for patients undergoing cataract surgery to develop the study tools for data collection. During the development of the study tools, the supervisors' guidance and experts' opinions were considered.

▪ **Pilot Study**

Pilot study was carried out on 15 patients undergoing cataract surgery in order to test the applicability of the constructed tools and the clarity of the included questions. The pilot has also served to estimate the time needed for each subject to fill out the questions. According to the results of the pilot, some modifications were performed as needed. The pilot study participants were not included in the main study sample.

▪ **Validity and reliability:**

Face and content validity were ascertained by a group of experts from Medical Surgical Nursing department, Faculty of Nursing, Ain Shams University and Zagazig University. Their opinions were elicited regarding the format, layout, consistency, accuracy and relevancy of the tools.

Testing reliability of the developed tools was done through alpha cronbach test that was 0.875 for total patients' practice observational check lists and 0.954 for the patients' knowledge assessment questionnaire.

▪ **Fieldwork**

Data collection for this study was carried out through six months, from the beginning of April, 2016 till the end of September, 2016, and the following was done:

- The researcher met the patients who were admitted in the previously mentioned setting. Then explained the purpose of the study after introducing herself.
- The patients were assured that the collected information would be treated confidentially, and it would be used only for the purpose of the research.

- Then, patients consent to participate in the study was obtained.
- Each patient was interviewed once in the ophthalmic department to fill out the questionnaire concerned with assessment of their post cataract surgery self-care knowledge.
- Each interview took approximately from 30-45 minutes.
- Patients were observed by the researcher using observational checklists to assess their practice regarding instillation of eye drop and ointment.
- The researcher visited the study setting 3days weekly at morning and afternoon shift to collect data and implement this study.
- Based on assessment of patients' level of knowledge and practice, the researcher developed self-care guideline in Arabic language including information about cataract surgery and self-care management after surgery such as care of eye, medication, proper position after surgery, nutrition, activity of daily living and complications.
- The developed guideline was tested for its validity through five experts from faculty of Nursing, Zagazig University (One assistant professor) and faculty of Medicine, Benha University (Four assistant professors).

### III. Administrative design

An official letter was issued from the Faculty of Nursing, Benha University to the medical and nursing directors of ophthalmology surgical inpatient unit affiliated to Benha university hospital to obtain their permission for conducting the study after explaining its aim.

#### Ethical considerations:

*The ethical research considerations include the following:*

- The research approval was obtained from the faculty ethical committee before starting the study.
- Verbal approval was obtained from the patients before inclusion in the study.

- The researcher clarified the objectives and aim of the study to patients included in the study before data collection.
- The researcher assured maintaining anonymity and confidentiality of patient's data and that, it will be used for research purpose only.
- The patients were informed that they are allowed to choose to participate or not in the study and they have the right to withdraw from the study at any time.

### IV. Statistical analysis

The data collected from the studied patients was revised, coded and entered into an excel sheet on the computer. Statistical analysis was fulfilled using the statistical package for social sciences (SPSS) version 20. Data were presented using descriptive statistics in the form of frequencies, percentages. Chi-square test ( $X^2$ ) was used for comparisons between qualitative variables to find out relations. Statistical significance was considered as follow:

- P value  $> 0.05$  non significant.
- P value  $\leq 0.05$  significant.
- P value  $< 0.01$  highly significant.

#### Results:

Regarding the demographic characteristics of the studied patients, table 1 shows that, about two thirds of them (62.7 %) their age was between 50- 60 years, with mean age  $53.7 \pm 3.21$ . The highest percentage of the studied patients (62.0 %) was female and 44.7% of them were illiterate. Regarding to working the same table clarifies that, 41.3% of the studied had vocational work.

**Table (1):** Number and percentage distribution of the studied subject according to their demographic characteristic (No=150)

Items	No	%
<b>Age in years</b>		
Less than 30	11	7.3
30 - < 50	45	30.0
50 - ≥60	94	62.7
Mean ±SD	53.7±3.21	
<b>Gender</b>		
Male	57	38.0
Female	93	62.0
<b>Level of Education</b>		
illiterate	67	44.6
Primary	45	30.0
Secondary	22	14.7
university	16	10.7
<b>Work</b>		
Not work	62	41.3
Vocational work	49	32.7
Employee	39	26.0
<b>Marital Status</b>		
Married	98	65.3
Not married	52	34.7

Table 2 illustrates the distribution of the studied patients according to their disease history. As indicated in this table, more than one third of them (38.7 %) have diabetes mellitus and 88.0% of them were suffering from cataracts in the other eye. The lowest percentage of the studied patients (39.3 %) had no family history of cataracts. Regarding to smoking the above table clarifies that, 86.0% of the studied patients are not smoking.

**Table (2):** Number and percentage distribution of the studied patient according to their disease history (No=150).

Items	No	%
<b>Chronic Disease</b>		
Diabetes mellitus	58	38.7
Hypertension	6	4.0
Cardiac diseases	3	2
Liver diseases	43	28.7
Non	42	28
<b>Other Eyes Disease</b>		
Glaucoma	6	4.0
Vernal kerato conjunctivitis	10	6.7
Cataract (other eye)	132	88.0
Not found	2	1.3
<b>Family History of Cataracts</b>		
Yes	91	60.7
No	59	39.3
<b>Smoking</b>		
Yes	21	14.0
No	129	86.0

**Table (3):** Number and percentage distribution of the studied patients according to their total knowledge (No=150)

As it is clear from this table, half of study patients (50.0 %) had satisfactory knowledge about operation, anesthesia and complications. the table also shows that, more than half of study patients (53.3 %) had unsatisfactory knowledge about self-care after cataract surgery.

**Table (4):** Number and percentage distribution of the studied patients according to their knowledge regarding self care (No=150)

knowledge about self care Items of	Satisfactory		Unsatisfactory	
	No	%	No	%
Eye hygiene	56	37.3	94	62.7
Medication administration	84	56.0	66	44.0
Position after surgery	103	68.7	47	31.3
Activity of daily living	43	28.7	107	71.3
Nutrition	71	47.3	79	52.7
Total	72	48.0	78	52.0

Concerning the patient's knowledge about self – care after surgery, table 4 illustrates that, more than two thirds (68.7 %) had satisfactory level of knowledge about position after surgery. While, less than one third of the studied patients (27.3 %) had satisfactory general knowledge as follow up after surgery, wearing eye glass...etc.

In relation to the studied patients' practices regarding administration of eye ointment and drops, table 5 reveals that, only 24.0% of them are able to administer eye ointment adequately and 20.7% of them able to administer eye drops adequately.

**Table (5):** Number and percentage distribution of the studied patients according to their practice regarding administration of eye medication (No=150)

patient's Practice	Adequate		Inadequate	
	No	%	No	%
Eye ointment	36	24.0	114	86.0
Eye drops	31	20.7	119	79.3
Total	33	22.0	117	78.0

**Discussion:**

The present study was conducted with the aim to developing postoperative self care guideline for patients undergoing cataract surgery.

Concerning the demographic characteristics of the studied patients, the

present study revealed that two third of the studied subjects fall at age group between 50-60 years old. This result is in agreement with *Naeem and Khan (2015)*, who mentioned that, with advanced age, the developing of cataract is increased and found that, the age of cataract patients in their study ranged between 50 years and more. This finding may be due to the fact that, as a person ages, the lens gradual loses water and increases in size and density.

In the present study; two third of the studied patients were female. This finding agree with *Lie, Cui, Zhang, Liu, Yong, (2009)*, who stated that, female sex, was associated with higher prevalence of bilateral cataract, while it disagree with *Hegazy, Ragheb, Elsayed and Rashad (2012)* who found that, more than half of studied the subjects in their study were male. This result may be due to female exposure to steam in kitchen during the cooking.

In relation to educational level, the current study illustrated that, more than two fifths of the studied patients are illiterate. This results is not in agreement with *Taha and Abdel Aziz (2015)*, who mentioned that, three fourth of patients in their study are illiterate. While the same result is not in agreement with *Hegazy, et al. (2012)* who mentioned that, more than one third of the patients in their study (37.5 %) were high educations. This finding may be due to that, lower level of education are associated with higher risk of cataract due to the ignorance about the hazardous effect to smoking, sunlight and healthy nutrition diet.

As regards occupation, the result revealed that, about one third of the

patients were not working, this finding was in agreement with *Nirmalan, Tielsch and Robin (2005)* who stated that, higher percentage of patients with visual impairment were without occupation. This finding may be due to the majority of the studied patient are females and housewife and have difficulties with vision.

Regarding to marital status, the results revealed that, more than two third of the studied patients are married. This finding was consistent with *Wei, Wang and Lin (2012)* who reported that four fifth of their study subjects were married. This may be due to that the most study sample age ranged between ages 50-60 year.

As regards presence of chronic diseases, the present study finding revealed that, more than one third of the studied patients had diabetes mellitus. This finding agree to some extent with *Behera, Satish, Jena, Hussain and Samal (2012) and Abdel-hady (2015)* who reported that more than half of the study patients had diabetes mellitus. This finding is due to the fact that, diabetes mellitus is at high risk for cataract, either because of a direct effect of the disease, or its treatment, or both.

Regarding presence of other eye diseases, the present study revealed that, most of the study patients had previous cataract in the other eye; this finding is not congruent with *El- Sayed (2013)* who reported that nearly about one third of the study patients had previous cataract in the other eye. This may due to presence of risk factor that causes cataract on both eyes e.g. diabetes mellitus.

Regarding family history of cataract, the present study revealed that, two third of studied patients had family history of cataract, this finding is consistent with

*Sobit and Sahni (2013)* who found that, 70.59 % of their studied patients had positive family history of cataract. This may be due to cataract tends to run in families.

Regarding smoking history, the result of the current study revealed that, the minority of the study patients were smokers, this finding is supported with *El-Sayed (2013) and Hegazy, et al. (2012)* who found that, the majority of the patients were non smokers. While the same finding is not in agreement with *National Eye Institute (2009)*, who reported that, the highest percentage of cataract patients were smokers. This may be due to smoking is a risk factor in the development of cataract and this difference may be due to the small sample size in the current study.

Concerning patient's level of knowledge about cataract operation and anesthesia in the current study, it was found that half of the studied patients had satisfactory knowledge, this finding is not in agreement with *Flau, Fan, Lau, and michaon (2002)* who found that, most of the participants in their study had awareness of cataract surgery. Also, the same finding is not in agreement with *Ketibeh, Eskandari, Mirzaei and Javai (2014)* who reported that, most of patients in their study had limited information about cataract surgery. This may be because most of the patients in the current study underwent previous cataract surgery in the other eye and may be receive instructions about the surgery previously.

In relation to patient's level of knowledge regarding complications of cataract surgery, the current study revealed that, about half of study patients had

satisfactory level of knowledge related to the complications, this finding is not in agreement with **Roe (2016)** who reported that, most of the participants did not have adequate knowledge about surgery complications.

Regarding patients level of knowledge about eye hygiene, the results of the present study revealed that, two third of the study patient's had unsatisfactory level of knowledge of eye hygiene, this finding is in agreement with **Beth, Lih, Kumutha and Kushala (2015)** who found that, about 43 % of the study patients in their study said that, the eyes need to be wiped from inner to outer canthus. This finding may be due to absence of any instructions regarding eye care.

Concerning patient's knowledge regarding medication administration, the finding of this study revealed that more than half of the studied patients had satisfactory level of knowledge regarding medication administration, this result may be due to the fact that the knowledge about eye medication administration is a general knowledge and is known to most of people either sick of healthy

Regarding patients knowledge about position after surgery, the present study showed that more than two third of the study patients had satisfactory level of knowledge about position after surgery, this finding is supported with **Beth, et al. (2015)** who found that 94.4 % of the patients in their study understood that they must not lie on the operated side following surgery. Also, patient underwent cataract surgery in the other eye and may be received this instruction previously. Moreover, this instruction nearly the only

information that has been given by the doctor postoperatively.

In relation to patients knowledge regarding activity of daily living post cataract surgery, the result revealed that, more than two third of the patients in the current study had unsatisfactory level of knowledge, this finding is consistent with **Hegazy, et al. (2012)** who reported that, most of patients had low level of knowledge about permissible activities of daily living. These findings may be due to, lack instruction given by the nurses or the ophthalmologist.

Regarding patients knowledge about postoperative nutrition, the result revealed that, more than half of the study patients had unsatisfactory level of knowledge. This finding is in agreement with **Abdel-hady (2015)** who reported that, about 49.0 % of study patients had incomplete answer about food after operation. This finding may be due to patients staying short period of time in the hospital postoperatively may be there is no enough time to receive complete instruction to be followed after operation.

Regarding general knowledge as follow up the result revealed that four fifth of studied patients had satisfactory level of knowledge about follow up, this finding agreement with **Beth, et al, (2015)** this research shows that, patient have good knowledge on importance of follow up after cataract surgery. This due to most of them is aware that they must go for regular follow up.

Observation of patients practices regarding administration of eye medication that more than three fourth of studied patients are administering eye medications inadequately, this finding is



in agreement with **Kumar, Banagar and Canda (2014)** who found that, their patients had difficulty in administering eye medications correctly. This may be due to not attending demonstration of eye medications administrations.

As regard practice of studied patient, this study revealed that most patients had inadequate practice of hand hygiene before and after administration of eye medication. This may be due to most patient in this study are alliterate and. Not aware on risk of infection through improper hand washing.

As regard practice of studied patient, this study revealed that most patients had inadequate practice of clean eye with moist cotton from inner to outer before administration of eye medication. This may be due most patients don't have information about correct method of clean eye and important of clean eye before administration eye medication, this finding is not in agreement with **Beth, et al. (2015)** who found that about 43 % of patient said that the eyes need to be wiped from inner to outer canthus

**Conclusion:**

The current study concluded that, more than half of the studied patients had unsatisfactory knowledge regarding self-care post cataract surgery. Information about eye hygiene and activities of the daily living are the most prevalent needed information as, most of the studied patients had unsatisfactory knowledge regarding these topic. Moreover, most of the studied patients need information about administration of eye ointment and eye drops. The postoperative self-care guideline for patients undergoing cataract surgery was developed by the researcher

according to patients' need then, validated by panel of experts in this subject.

**Recommendations:**

Based upon the findings of the present study, the following has been recommended:

- Health education program should be prepared for the patients undergoing cataract surgery and their families about the disease, postoperative care and prevention of cataract surgery complications.
- Further researches are proposed to investigate the effect of the implementation of these guidelines on decreasing the incidence of complications after the surgical technique.
- A simplified illustrated and comprehensive Arabic booklet including postoperative self-care guidelines should be provided for patients undergoing cataract surgery.
- Conducting a similar research among larger probability sample of the population to generalize the findings.
- Providing patients undergoing cataract surgery with postoperative self-care guidelines via nurses through different media such as posters.

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