

# **A Study To Assess The Knowledge On Post-Operative Self-Care Activities Among Patients Who Have Undergone Cataract Surgery At A Selected Hospital, Malaysia.**

Mini Rani Mary Beth\* Khor Fang Lih Kumutha A/P Kushalan

Division of Nursing, International Medical University, 126, Jalan Jalil Perkasa 19, Bukit Jalil, 57000, Kuala Lumpur, Malaysia.

\*E-mail of the corresponding author: [mini\\_jackson@imu.edu.my](mailto:mini_jackson@imu.edu.my)

## **Abstract**

**Introduction:** Cataract is the leading cause of blindness (WHO, 2011). It will give an impact on physical and emotional status of an individual with cataract. World Health Organization also has the mission towards eliminating blindness by year 2020.

**Purpose:** The purpose of this study is to assess the knowledge of post-operative self-care activities among patients who have undergone cataract surgery in a selected hospital, Malaysia. The theoretical framework used is Dorothea Orem's self-care model.

**Methodology:** A cross sectional design was used in this study. Non-probability convenient sampling method was used to choose 90 subjects. Data was collected by face-to face interview using Cataract Postoperative Self-care Knowledge Questionnaire. The results were analysed using descriptive statistics with (SPSS) 16.0 version 2007 and data were presented in tables and pie charts.

**Results:** The results showed that most of the subjects did not restrict their diet after the cataract surgery and knew that infection or injury might occur after surgery. There were 43% of the subjects, who have chosen the correct technique of cleaning the eye before instilling the eye drops or ointment. Most of the subjects knew the importance of hand hygiene before instillation of eye drops. All subjects knew the importance of regular follow up after surgery.

**Conclusion:** There is a need for re-inforcement to the patients through education to improve the knowledge on post-operative self-care following cataract surgery. Nurses need to be supportive and educative in caring for these patients.

**Key words:** Knowledge, cataract, self-care

## **1. Introduction**

World Health Organization (2008) has a target towards Vision 2020 to demolish blindness by the year 2020 with the mission of "The Right to Sight." Cataract is the most frequent cause of blindness in developing countries. Cataract occurs due to few factors such as age, hereditary and trauma. Polack (2008) says that cataract will alter and impact the life style of elderly people. This will affect them physically and mentally (Lockey & Ul-Hassan 2009). A Survey conducted by National Eye Survey as reported in National Eye Database year 2009 shows that the prevalence of cataract in the population over 40 years of age was 5.7% (Goh & Salowi 2009).

The 4<sup>th</sup> report of National Eye Database (2010) reported that the number of patients for cataract operation is increasing every year. There were 12,798 patients registered in the year 2002 which is increased to 28,506 patients in the year 2010. The mean age for cataract surgery is 64 to 65 years. It is also reported that 42.6% cataract surgeries were done at day care centers in the year 2008, 47.2% in 2009 and 51.5% in 2010.

## 1.1 Objective of the study

The objective of this study is to assess the knowledge of post-operative self-care activities among patients who have undergone cataract surgery in a selected hospital, Malaysia.

### 1.1.1 Literature review

National Eye Database (2009) has reported that age related cataract is the major cause of blindness (39%) in Malaysia giving the impact of self-care ability and affect the quality of life directly. It is vital to ensure that patients' informational needs have been met prior to hospital discharge sets the stage for successful self-management of recovery at home (Maloney & Weiss 2008). Neault (2005) reported that cataract patients are discharged from ambulatory surgery centers soon after surgery and must be able to perform post-operative self-care at home. The preparation for self-care after the discharge of the patient has to be well performed (Doering *et al.* 2010). There is always a need to establish useful and effective ways to deliver information to patients. Knowledge and understanding of these conditions, the implications and an appreciation of the effect of sight loss on the daily living activities of older people are therefore essential for the effective planning and provision of their self-care activities (Watkinsons 2009).

Cataract visual impairment can have a major negative effect on the quality of older people's lives and can result in difficulties with daily living activities (Polack *et al.* 2007). Commonly encountered difficulties in the daily living activities were reading, watching television, cooking, driving and even walking and yet the self-care activities like looking after the incision wound post operatively, eye drop instillation, monitoring complications and so on. The experience of diminished sight has been documented as deeply unsettling, stressful and anxiety-provoking, resulting in loss of confidence, independence and freedom (Razavi 2008). There is a misconception that sights is less important in older age and that the restrictive effect of vision loss should be accepted as part of the ageing process in the life (Polack 2008). James *et al.* (2007) quoted in their research that most cataract, however, are associated with the ageing and usually occur bilaterally, although the rate of progression in each eye is seldom equal. So, discharging post-operative cataract patients to self-care a few hours after surgery, allows limited time to appropriately plan for rehabilitative needs.

Patients who have undergone surgical procedures often have self-care concerns in their preparation for discharge from the hospital. Most of the surgical patients have doubts regarding the post-operative self-care activities after returning to their home. The most common concerns were the wound care, pain management, daily activity level, complications, symptom management, elimination, and quality of life (Pieper *et al.* 2006). Unfortunately, hospital personnel often inaccurately assess patients' functional status and overestimate patients' knowledge of required self-care activities (Kripalani *et al.* 2007). As reported by (Yiu *et al.* 2010), discharge from hospital poses a potential threat to surgical patients' lives because they have to cope in daily life with the consequences of the illness and surgery. For instance, if cataract patients receive insufficient or inadequate knowledge of post-operative care after surgery, then patients will be left in confusion. As the result, numerous complications would occur anytime, anywhere. Therefore, how vital it is to ensure that patients' informational needs have been met prior to hospital discharge sets the stage for successful self-management of recovery at home (Maloney & Weiss 2008).

The theoretical framework used in this study is Dorothea Orem's self-care model. The goal of this model is to meet the self-care needs at peak level of health and wellness of mind, body and spirit by terminating self-care deficit unless patient or client couldn't achieve self-care needs partially or totally. Theory of self-care, self-care deficit and nursing system are three nursing theories which contribute to development of self-care model. Three components in nursing systems will helps patient to meet self-care needs through teaching, supporting, guiding in acting or doing for them besides provides an environment for development. Through educative and supportive system, the nurses will teach and support the patients even though the patients have the potential to meet their needs by themselves and supported by the families or relatives. This approach is suitable especially when discharging the patient from the hospital. It is a good model for autonomy principle in nursing practice because patients are valued by taking care of their personal health care (Pearson, Vaughan, & FitzGerald 2005). Using self-care models provide a common method between teachers, students and nurses, which brings together education, services and research. Orem's model of self-care has been widely studied and is globally applied in the modern nursing (Naji *et al.* 2009).

## 2. Methodology

A cross sectional design was used. A convenience sampling of 80 subjects who fulfilled the inclusion and exclusion criteria were selected for the study. The sample size was determined by power analysis = 0.80, significance level = 0.05, effect size = 0.45. To cater the attrition, 10 more subjects were added, which made a total sample size of 90.

### 2.1 Inclusion criteria:

- Male and female
- aged between 40 to 80 years
- has undergone any types of cataract surgery (one or both eyes)
- can speak Malay or English language
- Day care patients and hospitalized patients who have undergone cataract surgery

### 2.1.1 Exclusion criteria:

- Mental retardation or subjects with mental illness
- aged below 40 and above 80 years
- Critically ill, unconscious and semi-conscious
- Who do not understand and speak the languages like Malay or English

The instrument consists of part A: Demographic data and part B: Cataract Postoperative Self-care Knowledge Questionnaire. The instrument consists of twenty items which suits the five attribution of cataract postoperative self-care knowledge: knowledge on diet, risk of injury, risk of infection, technique of administration of eye drops or ointments and follow up. Cataract Postoperative Self-care Knowledge Questionnaires (CPOSCK) was used to assess the knowledge on self-care after cataract surgery.

The study was approved by the International Medical University (IMU) Joint-Committee of the Research and Ethics Committee. Permission was obtained from the hospital director to conduct the study. Subjects of the study were reassured on the confidentiality that their identity would not be revealed in any manner and participation in the study was voluntary. All subjects completed an informed consent form prior to participating in the study.

The pilot study was conducted on subjects who met the inclusion criteria. Inter-rater reliability was used to determine the reliability of the questions. Validity was done by panel of experts in the clinic, the ward sister, matron and ophthalmology nurses. Data was collected through face to face interviews with the questionnaires.

#### 2. 1.1.1 Data Analysis

Descriptive statistics was used to find the frequency and percentage of each demographic and research variables. Statistical Package for Social Science (SPSS) 16.0 version 2007 was used for data analysis.

### 3. Results and discussion

#### 3.1 Demographic Characteristics

The demographic variable results of gender, age, marital status, race, level of education, employment status and type of cases are presented in frequency (n) and percentage (%) in Table 1.

Table 1. Distribution of Demographic Characteristics

Demographic variables	Frequency (%) n = 90
<b>Gender</b>	
Male	54 (60.0)
Female	36 (40.0)
<b>Total</b>	<b>90 (100)</b>
<b>Age group (in years)</b>	
40 – 50	2 (2.0)
51 - 60	9 (10.0)
61 - 70	22 (24.0)
71 - 80	57 (64.0)
<b>Total</b>	<b>90 (100)</b>
<b>Marital status</b>	
Single	0 (0.00)
Married	78 (86.7)
Others	12 (13.3)
<b>Total</b>	<b>90 (100)</b>
<b>Race</b>	
Malay	9 (10.0)
Chinese	78 (86.7)
Indian	3 (3.3)
Others	0 (0)
<b>Total</b>	<b>90 (100)</b>
<b>Level of education</b>	
Primary	50 (55.6)
Secondary	33 (36.6)

Tertiary	1 (1.1)
Illiterate	6 (6.7)
<b>Total</b>	<b>90 (100)</b>
<b>Employment status</b>	
Yes	18 (20)
No	72 (80)
<b>Total</b>	<b>90 (100)</b>
<b>Type of cases</b>	
Day care	86 (95.6)
Hospitalized	4 (4.4)
<b>Total</b>	<b>90 (100)</b>

Table 1 shows that there were 54(60%) males and 36(40%) female subjects participated in this study. There were 86(95.6%) participants who were chosen from the day care and 4(4.4%) from the ward, who were hospitalised. Level of education shows that 50 (55.6%) of the participants had primary education, 33 (36.6%) had secondary education, 1 (1.1%) male subject had his tertiary education and 6 (6.7%) were illiterates. The highest frequency of 78 (86.7) subjects were married. The races were categorized into Malay, Chinese, Indian and others. The highest were 78 (86.7%) Chinese, followed by 9 (10%) Malays and 3 (3.3%) Indians. Nearly 72 (80%) of the subjects were not working while only 18 (20%) were employed. There were only 4 (4.4%) subjects admitted to the ward after the surgery mainly due to the need to claim for insurance. Most of the subjects (95.5%) were discharged after the surgery with stable parameters in the day care.

### 3.1.1 Analysis of Cataract Postoperative Self-care Knowledge Questionnaire

The results for the questions related to risk of injury and infection shows that 85 (94.4%) of the subjects understood that they must not lie on the operated side following surgery. However, out of 90 subjects, 2(2.2) subjects were unsure of the correct position to lie while sleeping or resting after the operation and 3(3.3%) subjects did not answer the question. There were 89 (98.8%) participants who had adequate knowledge on the usage of eye shield as protector. The response to the questions on ‘what should you do to prevent injury to the operated eye’, majority 89(98.8%) of them chose the option: ‘Do not rub the operated side and must wear eye shield while sleeping and wear sun glasses when going out’. All subjects knew that swimming was not allowed for the first six weeks of surgery to enhance healing process. All the subjects knew that they are not supposed to bend forward while washing hair and face after surgery. About 87 (96.7%) responded that “tap water” can be used for cleaning the eyes before applying the medication. Whereas, 3 (3.3%) of the participants claimed “lukewarm boiled water” can be used for cleaning the eyes.

Table 2. Response to type of diet recommended after operation

Items	Frequency (n=90)	Percentages (%)
Only fruits & vegetables	6	6.7
Only fish, meat or chicken	0	0
No restriction	77	85.6
Not sure	4	4.4
No answer	3	3.3
Total	90	100

Table 2 shows the response of subjects to the questions for knowledge on diet. Out of 90 participants, 77 (85.6%) of them claimed that there is no need for restriction in the diet after operation. While, 6(6.7%) agreed for the intake of ‘only vegetable and fruits’, while 4 %( 4.4) of them were not sure of the diet after cataract and 3 %( 3.3) did not respond to the question.

All the participants 90(100%) were aware on the importance of seeking doctor’s advice after surgery when they have increase in pain, discharge and redness. Meanwhile, all subjects expressed that they did not know to use eye ointment together with eye drops. This was because not all subjects were prescribed eye ointment and nurses only taught them the technique of eye drops administration. There were 80(89%) of them, who responded that they can use the eye drops according to doctor’s advice while 10(11%) responded that it can be used until all medication in the container is over.

All subjects had adequate knowledge on handling eye medication and that the tip and lid of the bottle should not touch any area or the eye ball as this might cause infection. About 89 (98.8%) agreed they should not ignore the post-operative signs and symptoms of complications and 1(1.1%) of them was not sure about it. All of them 90(100%) knew that swimming should be avoided during the first six weeks after surgery.

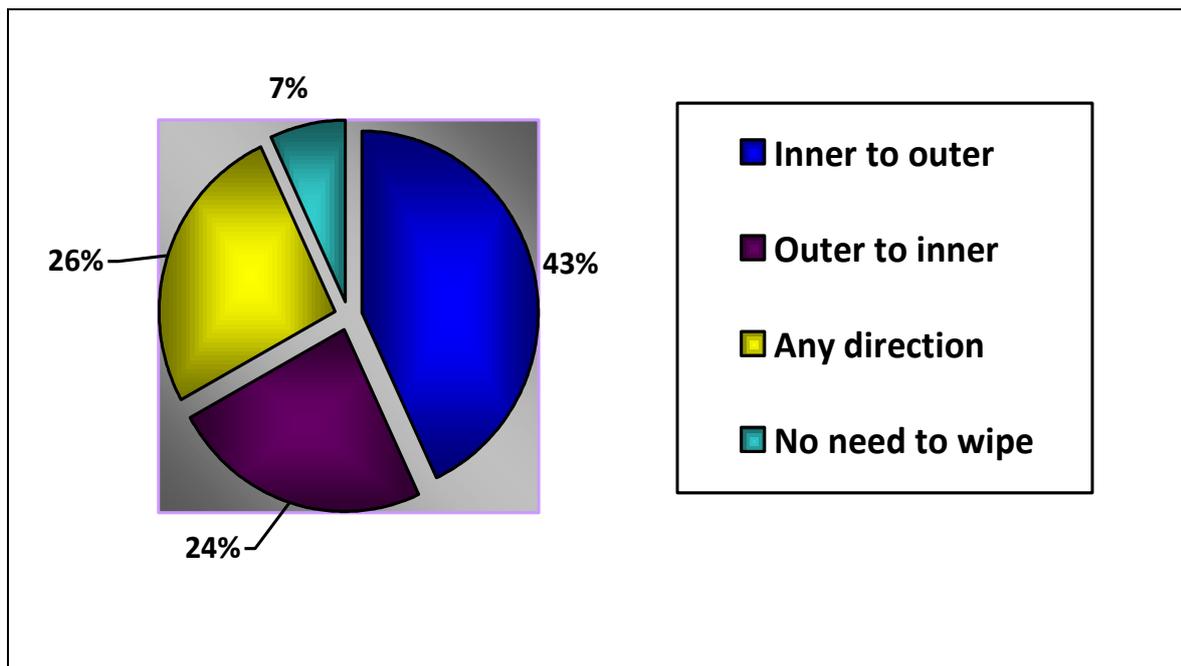


Figure 1. Response To The Question: What Is The Direction Of Cleaning The Eyes Before Instilling The Eye Drops Or Eye Ointments?

Figure 1 shows the response to the question on the direction of cleaning the eyes before instilling the eye drops or ointments. About 39(43%) subjects said that the eyes need to be wiped from inner to outer canthus, 22(24%) subjects said eyes must be wiped from outer to inner canthus, 23(26%) subjects said they can wipe from any side and 6(7%) subjects responded saying there is no need to wipe at all.

This research shows that, subjects have good knowledge on importance of follow up after cataract surgery because 90% of them are aware that they must go for regular follow up but majority of them 82(91%) were not sure when exactly they need to go for follow up after operation while 8(8.8%) selected to go for follow up after 1 week of surgery.

Lockey & Ul-Hassan (2009) reported that 97% patients were satisfied with explanation by nurses about the risk and benefits of operation compared with explanation given by physicians. This is because nurses are with the patients for 24 hours and have good nurse-patient relationship. The research results show that the participants were not aware on risk of infection through improper hand washing. Thus, nurses must play a key role in educating subjects to prevent complications after cataract surgery.

#### 4. Implications to nursing

Nurses are supportive and educative while caring for patients. Assessment of knowledge on diet, risk of injury and infection, technique of administering the eye drops or eye ointments and appointment are important because when good health education on these aspects is delivered, it will enable the patients to take care of themselves without being anxious and confident and save the hospitalization cost in future. Nurses not only do the assessment, but must make sure whether patients really understood the importance of follow up visits, when to go for follow up visits and the complications that may arise after discharge.

Most of the patients are anxious about the complications of the surgery and duration of operation site healing. Through good nurse- patient relationship and delivery of health education, the patients' anxiety level will be reduced and they can gain confidence to perform self-care after discharge.

The results of this research will help the nurses to determine the level of knowledge of the patients about the post-operative self-care following cataract surgery. During the discharge or prior to that, nurses must emphasize the importance of self-care after surgery. This could help to reduce the post-operative complications such as risk of infection or injury. Even though the percentage of infection is reducing over the years, this research could provide awareness to the patients and nurses to prevent the infection rate from getting worse in the future.

### **5. Limitations of the study**

The limitation is that the sample size for this research was not large enough to generalise the findings for Malaysian population. Non-probability convenience sampling was used due to time constraints and the availability of the subjects. The instrument was in available only in English and Malay language, which restricted the researchers to proceed to collect data from participants who were unable to speak and understand these two languages.

### **6. Recommendations for future study**

Further research could be conducted among larger population to generalise the findings. Probability sampling can be used in future research to select specific subjects. Researches also can be conducted prior to the surgery to assess the knowledge regarding post-operative self-care. The subjects chosen for the study could be the ones who had undergone cataract operation for first time instead of those who underwent for more than one time. This is because the subjects might have already acquired some knowledge about post-operative self-care activities from previous cataract operation and able to care for themselves. This has to be included in the inclusion and exclusion criteria.

### **7. Conclusion**

Knowledge on postoperative self-care activities among cataract patients is important for the patient and also for health care providers. Early assessment need to be done to help patients for full recovery from infection and injury. Knowledge on diet, risk of injury, risk of infection, technique of administration of eye drops or eye ointments and appointment after discharge are essential to be emphasized by the nurses to patients. Nurses must realize their role as an educator which will help the patients in many ways. Nurses spend more time with patients compared with other health care providers. Therefore nurses are able to build good rapport through effective communication skills. With sufficient knowledge of the nurses, teaching process will occur smoothly and patients understand their responsibility on looking after them confidently after surgery. Through effective health education and awareness, hopefully patients are able to prevent the post-operative complications; know about self-care activities after surgery; improve quality of life and achieve World Health Organization goal to prevent blindness by Year 2020.

The findings in this research, with regards to patients understanding about hand washing before administration of eye medication, shows that the participants did not have knowledge on risk of infection through improper hand washing. Thus, nurses must take action by educating patients continuously to update knowledge on preventing complications. This process will take place smoothly once good nurse-patient relationship is built.

From the nursing educations' perspective, the findings show the need for health education to the participants. Not only the registered nurses, but also the nursing students have responsibilities in educating patients prior to discharge. Nurses need to have confidence and must be knowledgeable when sharing the information.

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- Yiu, et al. (2011). Information needs of chinese surgical patients on discharge: A comparison of patients' and nurses' perceptions. *Journal of Advance Nursing*. 67(5), 1041-1052.
- Mini Rani Mary Beth, an Indian born in 1974, currently working as a lecturer in Nursing Division at the International Medical University (IMU), Malaysia. She obtained her Bachelor degree in Nursing from Annamalai University, Tamil Nadu, India in 1996 and Master degree in child health nursing from Tamil Nadu Dr. M.G.R. Medical University, India in 2002. She is a registered nurse and midwife from the Tamil Nadu Nurses and midwives council, and also a life member of the Trained Nurses Association of India. She has varied experiences as registered nurse, clinical Instructor, administrator and educator. As a nurse educator, she had been teaching nursing students at different levels of diploma, Post Basic, Bachelor and Master's degree in Nursing for over 12 years. She has also served in the Ministry of Education and Ministry of National Defence, Ethiopia for five years. She had been awarded gold medals for the best outgoing and highest aggregate marks in Bachelor degree and silver medal for the best outgoing student in the Master's degree programme in India. Mrs. Mini has been actively involved in organizing various events for the nurses and the nursing students at the division level in IMU. At present, she is involved in the teaching and learning activities, supervising and guiding the students in the research projects.

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