

Health Needs Management among Patients Undergoing Day Case Cataract Surgery: A Proposed Protocol

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Abstract: Cataract is considered as a significant global health problem and represents the most important cause of visual impairment world-wide. Extraction of the cataract which accounts for a significant proportion of the surgical workload among most ophthalmologists, improving quality of the vision. **Aim:** This study aims to propose a protocol for health needs management among patients undergoing day case cataract surgery, through identifying the health needs and assessing the care given on day of the surgery. **Methods:** A descriptive explorative design was utilized to conduct this study that was carried out in the Ophthalmic Outpatient Clinic and surgical waiting room of the ophthalmic unit, at Ain Shams University Hospital and Benha University Hospital. **Sample:** A purposive sample composed of 160 patients undergoing cataract surgery, adults and old age, from both genders and were recruited from the above mentioned settings. **Tools:** 1) Patients' interviewing questionnaire, to determine patients' needs regarding day case cataract surgery (pre / post tests), 2) An observation checklist, to assess care given for the studied patients on the surgical day and 3) Hamilton's Anxiety Rating Scale, to determine patients' levels of anxiety (pre / post tests). **Results:** There are statistically significant differences between patients' health needs pre / post surgery, added to more than half of the studied patients had severe anxiety pre – surgery, compared to post – surgery. Moreover, mean percent of unsatisfactory care was higher on day of the surgery. **Conclusion:** The current study concluded that, there were more significant health needs among the studied patients pre - surgery, added to the positive effect of the surgery on the reduction of these needs and relieving patients' anxiety post – surgery. Furthermore, unsatisfactory patients' care had higher mean compared to satisfactory care on day of the surgery. **Recommendations:** Based on findings of the present study, it can be recommended that, the proposed protocol of patients health needs management that's evidence – based should be implemented and evaluated in relation to the incidence of cataract surgery complications.

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Key words: Patients' health needs management, day case cataract surgery.

1. Introduction:

Cataract is a clouding or opacity of the lens that leads to gradual painless blurring of vision and eventual loss of sight which is one of the most profound and dreaded of physical disabilities. Opacities of the lens are the leading cause of self-declared vision impairment. Mature cataract is a developed cataract that separates easily from the lens capsule. It is one of the few normal physiological changes in the aging process, therefore its incidence increase with age and occur on both eyes. Developmental cataracts are always congenital and may be hereditary. Acquired cataract may be associated with ocular disease, trauma, systemic disease or aging. (Hegazy, 2004, Lansingh & Carter, 2009 and Agarwal & Kumar, 2011).

Today, cataract is a greater problem, the significance of which is better understood. In the United States, more than 2.5 million people have Cataract Surgery each year and age related cataract is responsible for 48% of the world blindness, which represents about 18 million people. In one study, it

was found that 30% of people with 65 years of age and over have visually impairing cataract in one or both eyes. A further 10% of them had previous cataract surgery in one or both eyes. Moreover, the prevalence of visually impairing cataract rose steadily with the age: 16% (65 - 69 yrs.), 24% (70 - 74 yrs.), 42% (75 - 79 yrs.), 59% (80 - 84 yrs.), and 71% in people of 85 years or more. Women had a higher prevalence of cataract (Hickman *et al.*, 2010 and Sach *et al.*, 2010). In Egypt, the prevalence of low vision for all ages is 47.9% of the population aged 65yrs. Major causes in Egypt for blindness are cataract (54.8%), corneal opacity other than trachoma (18.8%), refractive error (7%), glaucoma (4.6 %), others (7.2%) (Hegazy *et al.*, 2008 and Mohamed *et al.*, 2011).

Day case surgery offers a safe and cost effective alternative to inpatient care, provides patients with familiar environment on their own home, reduces the waiting list time, enhances visual rehabilitation, favoring for the doctor and the patient alike and reducing nurses to patient contact time which create

new approaches to the nursing care. Various studies found that, the patients have been very happy with the day-care surgery and reporting that 87% of them are relieved to return to their workplaces earlier and there is a strong element of “let’s get it over with fast” and return home. It is imperative that the patients are deemed suitable, as the day case and the criteria of the suitability be integral to the assessment procedure (**Jakobsson et al., 2009 and Lundstrom et al., 2011**).

Cataract surgery has become one of the most technically advanced area of modern medicine, its types include: Intra capsular Cataract Extraction (ICCE), in which the entire lens capsule was removed with the cryoextractor and now it reserved for cases of phacoanaphylaxis and subluxation of the lens. Extra capsular Cataract Extraction (ECCE), in which the lens capsule is incised and the lens cortex and nucleus are removed leaving the posterior capsule and lens zonule in place. Small Incision Cataract Surgery (SICS), which results in a good visual outcome. Lastly Phacoemulsification (PHACO), is a process of the lens nucleus fragment ion with ultrasonic vibrations and aspirating the lens material through a double - lumen, irrigation-aspiration system that requires only a small incision. A cataract surgery requires much less time and therefore, can be done comfortably even on a medium risk patient. In a similar manner, the basic nursing requirements to be followed are also the criteria for selection on a day care mode (**Black et al., 2009 and Werner, 2010**).

In cataract extraction surgery, the eye lens was removed and replaced with an artificial lens called intraocular lens (IOL), which is a clear plastic lens that becomes a permanent part of the eye, it cannot be felt. The incision in the eye will take 4 weeks to completely heal, during that time the vision will gradually improve. It can be performed either on a day-case or in-patient basis, either under local, “twilight anesthesia” or general anesthesia, which is short- acting with rapid recovery (**Sparrow, 2007 and Timby & Smith, 2008**). Adverse events of cataract surgery occur in about 3% of the patients. Early complications include: Corneal edema raised intraocular pressure, corneal abrasion, wound leak, suture complications, iris prolapse, incarcerated vitreous, severe anterior uveitis and displacement of the intraocular lens. Later complications include: Cystoids’ macular edema, endophthalmitis, retinal detachment, posterior capsule opacification and unsatisfactory refractive error (**Gogate et al., 2007 and Karaj et al., 2010**).

Moreover, almost any patients may have cataract surgery on this basis; they attend for an early postoperative examination on the following day or within a few days depending on the advice of the

consultant. Later follow-up examination is usually at one to three weeks. For the majority of patients the procedure is virtually painless, with a recovery period of just a few days. The vision provided by a lens implant (an intraocular lens - IOL) is as clear as that provided by the natural lens of the eye (**Kirkwood et al., 2006 and Campbell et al., 2009**). Many other remedies for cataracts have been attempted, included medications, eye drops, vitamins, changes in diet and resting the eyes. Unfortunately, none of these has proven successful in dissolving or clearing cataracts. Fortunately, there have been tremendous advances in cataract surgery in the past several years. The chances for recovering good vision after surgery are now excellent (**Keenan et al., 2007 and Potter & Perry, 2011**).

Significance of the study:

Today, day surgery includes concepts of care other than immediate discharge of patient after initial recovery from the anesthesia. It is becoming increasingly common throughout the world. A combination of new developments in surgical technique and technology, changes in hospital resources allocations and patient demands for quicker, added to more effective treatments have placed day surgery at the forefront of modern patient management. Moreover, Patients want treatment that is safe, efficient and effective and which provides the least possible disruption to their lives, so day surgery gives these patients -focused care. Patients’ needs assessment has a positive effect by improving staff nurses’ perception toward the care, helping to collect subjective data, building a trusting relationships with patient and coordinate the work with other health team members (**Belal et al., 2004, Hegazy, 2004 and Mohamed et al., 2011**).

Aim of the study:

This study aims to propose a protocol for health needs management among patients undergoing day case cataract surgery. This aim was achieved through the following:

- Identifying needs of the studied patients pre / post surgery.
- Assessing care given for the studied patients on the day of cataract surgery.

Research questions:

- What are the health needs among patients undergoing day case cataract surgery?
- What are the **cares** given for patients **undergoing** day case cataract surgery?

2. Subjects and Methods:

Operational definitions:

Undergoing: means pre / post surgery and follow – up period.

Patients' needs: means physical, psychological, social, spiritual and educational needs.

Day case surgery: means performance of a surgical procedure that occurs without overnight admission of the patient prior to or following the intervention.

Protocol: Is a set of "RULES" and "REGULATIONS" for sending and receiving Information, by using the standard protocols.

Research design:

A descriptive exploratory design was utilized to conduct this study.

Setting:

The study was carried out in the Ophthalmologic Outpatients Clinics and Surgical waiting room of the Ophthalmologic Unit at Ain Shams University Hospital and Benha University Hospital.

Subjects:

A purposive sample was composed of 160 cataract patients, adults and old age, from both genders. They were recruited from the above mentioned settings as follows:

- Patients were taken from Ain Shams University Hospital (n = 90).
- Patients were taken from Benha University Hospital (n = 70).

Inclusion criteria:

- Patients having cataract surgery for the first time.
- Conscious patients with no speech or listening disorders.
- Patients are willing to participate in the study
- Patients are willing to take local anesthesia
- Criteria for local anesthesia include (Patients should be able to lie flat or still and without dementia).
- Patients without ocular co – morbid conditions

Tools of data collection:

I- Patients' interviewing questionnaire, that was designed by the researchers after reviewing the related literature and consulting the experts to determine patients' health needs regarding day case cataract surgery. It was written in simple Arabic language and divided into the following parts:

- Characteristics of the study subjects namely, age, gender, marital status, income, educational level and smoking.
- Patients' medical records to identify past, present medical and surgical history, diagnosis, investigations and treatment.
- Patients' needs assessment sheet (**pre/post tests**), it composed of the following items:

Physical needs including:

Physical preparation, control of infection, relieving pain, using correct position, safe environment to prevent injury, activities limitation, assistance with physical activities, good sanitation, follow food regimen, avoid non permissible activities, perform relaxation techniques and follow prescribed medications.

Social needs including:

Positive relation with health care team, support from others, assistance with traveling / transporting, recreational activities and social relations.

Psychological needs including:

Feeling of safety and security, answers for patients' questions, awareness with the changes after the surgery, anxiety reduction and decreasing worry about health status.

Spiritual needs including:

Sense of inner peace, felling of hope fullness, praying position and enough spiritual activities and positive vision for the future.

Educational needs including:

knowledge about the surgery, anesthesia, medications, time of removing the dressing and postoperative changes, simple anatomy and physiology of the eye, causes and clinical manifestations of cataract, complications of the surgery, discharge instructions and reporting unusual signs and symptoms.

Answers of the studied Patients' regarding the presence of their needs (scored as two marks) or absence (scored as one mark), were categorized into either yes or no. The total items of patients needs = 40 item, whereas absence of the needs were considered from (1– 40) and presence of the needs from (41 - 80).

II- An observation checklist, adapted from Timby & Smith (2008), Campbell et al., (2009) and Hickman et al. (2010). It was developed and filled by the researchers to assess care given for the studied patients on day of the surgery as follows:

- **Morning of the surgery:** Medications, physical preparation, investigations.
- **Immediately post surgery:** Vital signs measurement, put patients on correct position, analgesics administration, and psychological support.
- **Discharge period:** Instruct patients about: activities of daily living (ADL), correct position, exercises, diet, medications, follow – up.

A correct practice was scored as (1) while the incorrect (Zero). Total score was categorized into either unsatisfactory (less than 70%) or satisfactory (70% or more).

III- Hamilton Anxiety Rating Scale: It was developed by Hamilton (1959) and modified by

the researchers. This scale formed of thirteen variables: anxious mood, tension, insomnia,, cognitive changes, depression, somatic(sensory), cardiovascular, respiration, gastrointestinal, Genitourinary, autonomic symptoms, somatic (muscular) and the behavior at the interview. Responses were from (0-3) scores and the total score ranged from 0-39 according to patients' responses, the following classifications were adapted: no anxiety (zero), mild anxiety (0 - less than 23), moderate anxiety (23 - less than 29) and severe anxiety (29 - 39).

Testing reliability of the scale items using alpha cronbach test = 0.92.

Validity and reliability:

Content validity was ascertained by a group of experts from Ophthalmic Surgery, Medical–Surgical Nursing and Community Health Nursing. Their opinions were elicited regarding to the tools format layout, consistency and scoring system. Contents of the tools were tested regarding to the knowledge accuracy, relevance and competence. In addition, content validity was done also for the proposed protocol to test its consistency, accuracy, applicability, relevance and feasibility.

Testing reliability of patients needs items was done using alpha cronbach test: Physical needs = 0.94, social needs = 0.84, psychological needs = 0.93, spiritual needs = 0.81 and educational needs = 0.91.

Testing reliability of the observation checklist items was done using alpha cronbach test = 0.82.

Ethical considerations:

In the planning stage approval was obtained from the directors of the above mentioned settings. All patients were informed about the study and their rights according to medical research ethics that they were free to decide whether or not they would participate in the study. Then a written informed consent was obtained from each patient who agreed to participate in the study.

Pilot study:

A pilot trial was carried out on 10% of the total study sample to test the clarity and practicability of the tools, in addition to subjects and settings. Pilot subjects were later included in the study as there were no radical modifications in the study tools.

Procedures:

- Sampling was started and completed within 3 months.
- Purpose of the study was explained to the patients who agreed to participate in the study prior to data collection.
- The researchers started to collect the data from the studied patients as follows:
 - Before the surgical technique, on the same day of diagnosis when the patients came to the out

patients clinics using (needs assessment sheet and anxiety scale)

- On day of the surgery using an observation check list to assess patients care(morning of the surgery, immediate post operatively and at discharge period).
- On the follow - up visits within two weeks when the patients came to the out patients clinics using (needs assessment sheet and anxiety scale)
- Filling in the tools was done by the researchers according to the patients' understanding and health condition.
- The data were collected by the researchers 3 days/ week at the morning and afternoon shifts of the surgical time.
- All cataract patients were assessed individually using the previously mentioned study tools according to their physical and mental readiness.
- The proposed protocol was designed based on analysis of the actual patients' needs assessment by using the pre constructed tools.
- Content of the proposed protocol was consistent with the related literatures (national and international).
- The proposed protocol covering the following items: patients' assessment and care pre- surgery, morning care of the surgery, immediately care pre/post surgery, discharge instructions, home care and follow – up schedule.
- Testing validity of the proposed tools using face and content validity.

3. Results:

Table (1): Presents characteristics of the studied sample, this table clarified that, mean age of patients included in the study was (43.5 ± 11.6), more than half of them (59.4 %) were male and married (51.3%). As regards income, 60.0% had not enough income. In relation to education, more than one third of them (37.5%) had high level of education. Moreover, more than two fifths of them (45.0 %) were smoker.

Table (2): Shows physical needs among the studied patients pre/post cataract surgery. Results revealed a statistically insignificant difference between patients physical needs before and after the surgery, (t= 1.25, *p* > 0.05), whereas mean number of patients 'needs post the surgery was slightly higher than pre the surgery (124.8 ± 17.9 & 120.8 ± 18.9 respectively).

Table (3): Shows social needs among the studied patients pre/post cataract surgery. Results revealed a statistical significant difference between

patients social needs before and after the surgery, ($t=5.1$, $P<0.05$), whereas mean number of patients social needs pre the surgery was higher than post the surgery (115.0 ± 30.5 & 93.0 ± 45.0 , respectively).

Table (4): Presents psychological needs among the studied patients pre/post cataract surgery. Results revealed a statistical significant difference between patients psychological needs before and after the surgery, ($t=5.6$, $P<0.05$), whereas mean number of patients' needs pre the surgery was higher than post the surgery (125.7 ± 9.7 & 111.7 ± 30.0 respectively).

Table (5): Reveals spiritual needs among the studied patients pre/post cataract surgery. Results revealed a statistical significant difference between patients spiritual needs pre and post the surgery, ($t=11.8$, $P<0.05$), whereas mean number of patients' needs pre surgery was higher than post the surgery (105.0 ± 14.5 & 89.0 ± 8.5 , respectively).

Table (6): Clarifies educational needs among the studied patients pre/post cataract surgery. Results revealed a statistical significant difference between patient needs pre/post surgery, ($t=19.3$, $P<0.05$), whereas mean number of patients' needs pre the surgery was higher than post the surgery (120.3 ± 25.2 & 64.4 ± 27.1 respectively).

Table (7): Shows care given among the studied patients on the day of cataract surgery. Results revealed a statistical significant difference between

satisfactory and unsatisfactory patient care (morning of the surgery, immediate post operative period, discharge period), with t value (12.3 , $P<0.05$), whereas mean number of unsatisfactory patients' care was higher than satisfactory (36.0 ± 12.7 & 20.0 ± 2.8 , respectively).

Figure (1): Presents patients' needs pre-surgery. Finding observed that educational needs represent the highest needs 78.1 %, followed by psychological 76.6 %, physical 72.4% then later social and spiritual (70.1 % & 68.9 % respectively).

Figure (2): Shows patients' needs post-surgery. Finding indicated that physical needs represent the highest needs 71.1 %, followed by psychological 61.9 %, social 56.1 % then later spiritual and educational (53.3 % & 41.2 % respectively).

Figure (3): Shows distribution of the studied patients according to their level of anxiety pre / post cataract surgery. Results indicated that more than two fifths of the patients (55.0%) had severe anxiety pre surgery, compared to post surgery (10.0 %). Moreover, nearly two thirds of them had mild anxiety post surgery, compared to pre surgery (10.0 %). In addition, more than one third of them (35.0%) had moderate anxiety pre - surgery.

Table (1): Characteristics of the studied patients (n = 160)

Items	No	%
Age / years ($\bar{X} \pm SD$)	43.5 \pm 11.6	
Gender		
Male	95	59.4
Female	65	40.6
Marital status		
Married	82	51.3
Unmarried	78	48.7
Level of education		
High	60	37.5
Moderate	48	30.0
Low	52	32.5
Income		
Enough	64	40.0
Not enough	96	60.0
Smoking		
Present	72	45.0
Absent	88	55.0

*High education: University - Moderate education: Secondary school and technical institutions

- Low education: Illiterate, read and write, primary

Table (2): Presentation of physical needs among the studied patients pre/post cataract surgery

Items	Pre - Surgery		Post - Surgery	
	No	%	No	%
Physical preparation -	147	91.9	-	-
Control of infection-	134	83.7	139	86.9
Relieving pain -	-	-	160	100.0
Using correct position -	131	81.9	139	86.9
- Safe environment to Prevent injury	122	76.2	120	75.0
Activities limitation -	118	73.7	113	70.6
Assistance with physical activities -	131	81.9	128	80.0
Good sanitation -	115	71.9	110	68.7
- Follow food regimen	108	67.5	104	65.0
-Avoid non permissible activities	72	45.0	123	76.9
- Perform relaxation techniques	81	51.0	104	65.0
Follow prescribed medications	115	71.9	126	78.7
$\bar{X} \pm SD$	120.8 \pm 18.9		124.0 \pm 17.9	
% of mean	75.5%		77.5%	
T - value	1.25, $p > 0.05$			

Table (3): Presentation of Social needs among the studied patients pre/post cataract surgery

Items	Pre - Surgery		Post - Surgery	
	No	%	No	%
Positive relation with health care team-	126	78.7	64	40.0
Support from others-	112	70.0	70	43.7
Assistance with traveling -	142	88.7	144	90.0
Assistance with transporting -	131	81.9	139	86.9
Recreational activities-	64	40.0	48	30.0
Social relations-	98	61.2	74	46.2
$\bar{X} \pm SD$	115.0 \pm 30.5		93.0 \pm 45.0	
% of mean	71.9 %		58.1%	
T - value	5.1, $P < 0.05$			

Table (4): Presentation of Psychological needs among the studied patients pre/post cataract surgery

Items	Pre - Surgery		Post - Surgery	
	No	%	No	%
Feeling of safety and security -	122	76.2	110	68.7
Answer patients' queries -	128	80.0	136	85.0
- Awareness with surgical Changes	115	71.9	131	81.9
Anxiety reduction-	138	86.2	70	43.7
-Decrease worry about health status	110	68.7	48	30.0
$\bar{X} \pm SD$	125.7 \pm 9.7		111.7 \pm 30.0	
% of mean	78.6%		69.8 %	
T - value	5.6, $P < 0.05$			

Table (5): Presentation of Spiritual needs among the studied patients pre/post cataract surgery

Items	Pre - Surgery		Post - Surgery	
	No	%	No	%
-Enough spiritual activities	91	56.9	81	50.6
-Feeling of hope fullness	104	65.0	88	55.0
-Positive vision toward future	120	75.0	98	61.2
-Sense of inner peace	126	78.7	74	46.2
$\bar{X} \pm SD$	105.0 \pm 14.5		89.0 \pm 8.5	
% of mean	65.6 %		55.6 %	
T - value	11.8, $P < 0.05$			

Table (6): Presentation of educational needs among the studied patients pre/post cataract surgery

Items	Pre - Surgery		Post - Surgery	
	No	%	No	%
Information about cataract extraction	104	65.0	48	30.0
Signs and symptoms of cataract	67	41.9	43	26.9
Complications of cataract surgery	120	75.0	91	56.9
Investigations.	88	55.0	-	-
Discharge instructions about:				
Unusual signs and symptoms	152	95.0	72	45.0
Food regimen	115	71.9	101	63.1
Sleep position	125	78.1	54	33.7
sexual activity	123	77.0	85	53.1
Medications and eye care	147	91.9	32	20.0
Eye drop/ointment instillation	125	78.1	54	33.7
Eye dressing / irrigation	152	95.0	27	16.9
Permissible activities	126	78.7	102	63.7
Follow – up visits	122	76.2	56	35.0
X̄ ± SD	120.3 ± 25.2		64.4 ± 27.1	
% of mean	75.2 %		40.2 %	
T - value	19.3, P<0.05			

Table 7: Presentation of the care given among the studied patients on the day of cataract surgery (n = 160)

Day of the surgery	Satisfactory Patients (n= 55)		Unsatisfactory Patients (n = 105)	
	No	%	No	%
Morning care	22	40.0	45	42.9
Immediate post operative care	18	32.7	27	25.7
Discharge instructions	15	27.3	33	31.4
X̄ ± SD	20.0 ± 2.8		36.0 ± 12.7	
% of mean	12.5 %		22.5 %	
T-value	P<0.05 12.3,			

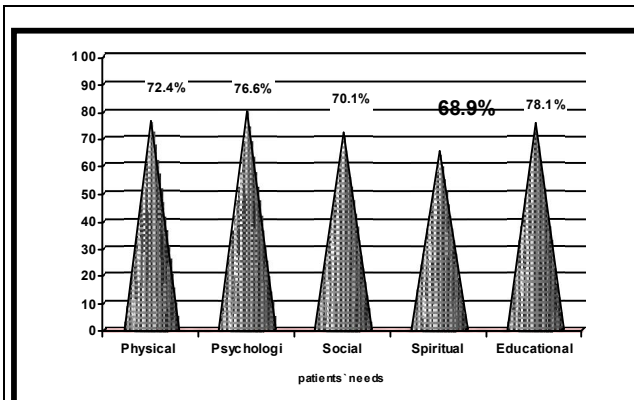


Figure (1): Mean percent of the studied patients needs pre – surgery

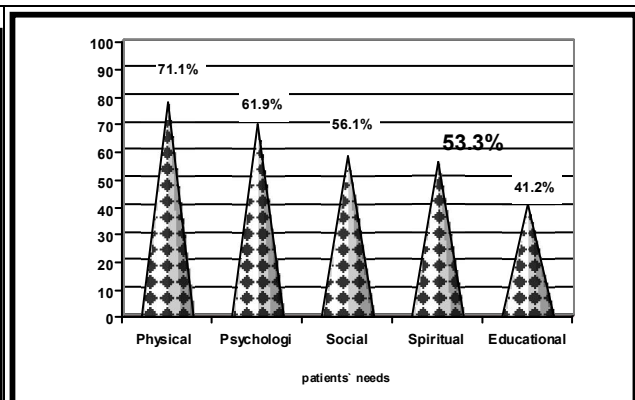


Figure (2): Mean percent of the studied patients needs post – surgery

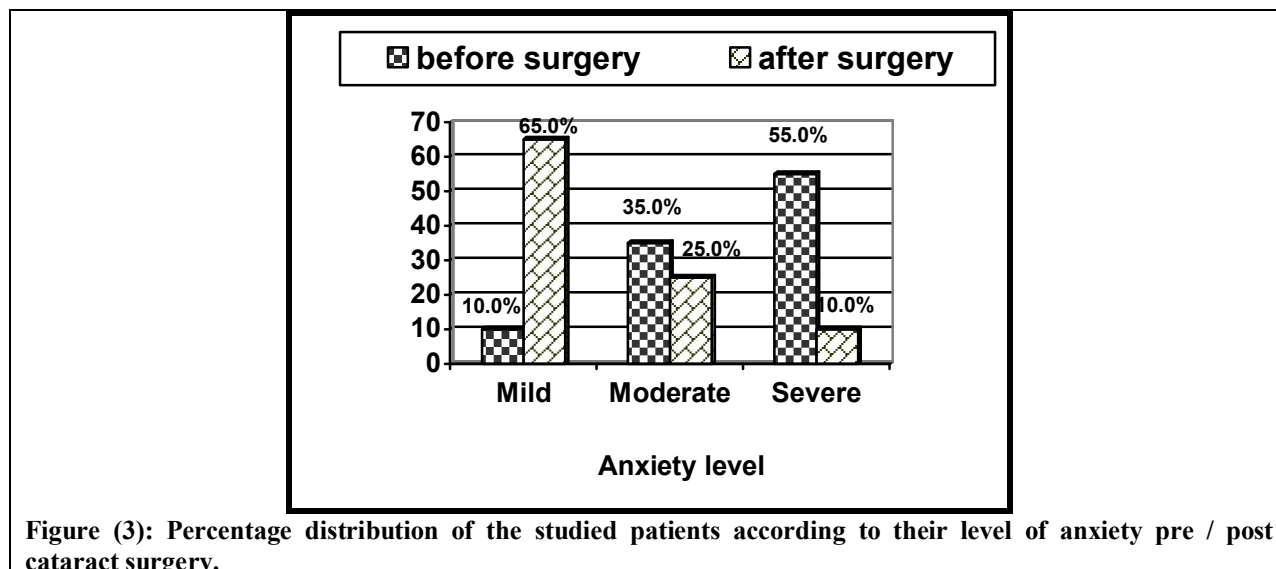


Figure (3): Percentage distribution of the studied patients according to their level of anxiety pre / post cataract surgery.

4. Discussion:

Day-care surgery has many advantages to the patient as well as to the doctor; Patients receive treatment that is suited to their needs and which allows them to recover in their own home, cancellation of surgery due to emergency pressures in a dedicated day surgery unit is unlikely, the risk of hospital acquired infection is reduced, clinicians can provide high quality care for appropriate patients and release inpatient beds for major cases, added to reduce waiting lists (Kirkwood *et al.*, 2006 and Hegazy *et al.*, 2008). The current study aimed to propose a protocol for health needs management among patients undergoing day case cataract surgery. In the present study, exclusion criteria of patients in day care surgery involved medical history of ocular co - morbid conditions and eye infection. Lundstrom *et al.* (2011) mentioned that, to determine suitability of patients for day surgery, a process of patients' selection must take place to avoid occurrence of complications. In cataract surgery, 95% of patients experience improved vision if no other eye problem present. Effective communication is imperative in all episodes of patients' care, because patients with impaired hearing or inadequate cerebration may not clearly understand instructions relating to the operation or what to do when discharged to go home. In a similar line, patients with a stroke may have communication and comprehension difficulties so it is important to ensure that relevant information is understood and supported by hard copy and written notes (Jakobsson *et al.*, 2009).

Concerning physical needs, it is clear that insignificant difference was found between pre / post surgery. The previous findings were supported by Keenan *et al.* (2007) who stressed on the importance

of physical preparation for patients with cataract surgery. He also add that day case surgery provide a major effective form of care with a high quality of services. From physical needs also food regimen instructions, Black *et al.* (2009) emphasized that, adequate diet and good nutrition are important to the conservation of sight. In relation to activities of daily living as a physical need in this study, Gogate *et al.* (2007) and Campbell *et al.* (2009) recommended that, the nurse must assess patients' ability to perform activities of daily living to determine level of independence in self-care and health education, added to majority of patients were in needs for helping in activities of daily living. Furthermore, medications and eye care considered as a physical need, Marsden (2004) claimed that, medications and eye care instructions are very important to decrease post-operative complications.

As well as, any preoperative assessment must assess the patients' ability to maintain their own safe environment. One needs to assess any problems, linked to respiratory, diabetes, heart or kidney and to evaluate in advance, drugs to be utilized. It is imperative that a pre-operative assessment include the final plan of the standby anesthetist, which must be mapped out in advance on a sheet which accompanies the patients to the theatre. Outpatient surgery is done with a high turnover and the operating room is not the place for evaluating the patients. (Sparrow, 2007 and Karaj *et al.*, 2010).

In the same line, care should be taken to provide adequate information to the patients, and analytical assessment of the physical condition prior to the procedure, added to day-care staff who look after the patients following the surgery. Adequate preparation of the patients for the surgery, will

contribute to a safe surgical journey. Pre-assessment and provision of day-care services are the innovative areas with exciting challenges for all workers in this field (Werner, 2010 and Agarwal & Kumar, 2011).

Regarding psychological needs, as reported by three quarters of the patients the needs were: answers their queries, receive information about the changes after surgery and about effect of psychological factors on the surgery. This finding could be attributed to the reports of nurses about short stay of the patients in the hospital on day case surgery; also the researchers observed that there is no psychological preparation by the nurses. Lansingh and Carter (2009) listed that, psychological preparation play a vital role in the successful outcome of the surger and psychological assessment should be made to assist in alleviating any worries the patients may have.

As regards social needs, more than half of the patients in this study reported no relation with health care team. *Sach et al. (2010)* recognized that, building up relationships with patients will allow discussing the problems confidentially. So it is essential to use an efficient interaction with patients stayed for a short period in the hospital. Considering educational needs, patients had a higher need before the surgery. Instructions about: Local anesthesia, permissible activities, sleep, food, unusual signs and symptoms, eye irrigation, medications and eye care, ADL and infection control. These findings may be due to, lack of nurses' knowledge and practices, added to the dependence on the ophthalmologist to give surgical instructions. The previous findings were supported by *Belal et al. (2004)* who reported that, patients' families are now responsible for almost all post-operative care, so written and verbal instructions before discharge are imperative. *Fedorowicz et al. (2006)* reported that, in day surgery because patients' journey is a short one, therefore post discharge advise, *as well as*, teaching patients and the families dispelling misconceptions and provide with the factual information. In addition, patients should be informed that the most common problems following Local anesthesia post cataract surgery are eye redness and temporary double vision.

According to *Hickman et al. (2010)* patients should be informed that at 4 weeks the following complaints should be absent: pain, photophobia, redness (except remaining sub – conjunctival hemorrhage) and cells in the anterior chamber. All mobility permissive patients should be taught to take extreme care of the eyes at home. In the same line, postoperative examination are crucial, so it is customary that the patients be seen the next day, however writing detailed note about what is normal and what complications on the first day is

unacceptable. It is imperative that a 24 hour contact number be provided to all patients (*Hegazy et al., 2008* and *Potter & Perry, 2011*). In addition, the patients should be educated about the risks and benefits of cataract surgery and alternatives to the treatment. Moreover, determine if the expected improvement of the disability outweighs the potential risk, cost and inconvenience of the surgery (*Rengaraj et al., 2012*).

Concerning psychometric assessment the current study indicated that, more than half of the patients had severe anxiety. This result may be due to lack of psychological preparation and other cases had surgical complications. The previous findings confirmed by *Hegazy (2004)* and *Timby & Smith (2008)* who listed that majority of the nurses perform psychological preparation incorrectly and stressed on the value of the preoperative preparations in reducing anxiety. He also adds that, anxiety results when patients are unable fully to comprehend the world around as regards the surgery.

Conclusion:

In the light of the current study it can be concluded that, there were statistically significant differences between studied patients needs (psychological, social, spiritual and educational) pre / post surgery, whereas significant improvement was indicated in these needs post surgery. Meanwhile, insignificant difference as regards the physical needs. Moreover, on day of the surgery, mean number of unsatisfactory patients care was higher than satisfactory. Furthermore, significant elevation was observed on anxiety level pre - surgery among the studied patients.

Recommendations:

Based on the results of the present study, it can be recommended that:

- The proposed protocol of patients' needs management that's evidence – based should be implemented and evaluated in relation to the incidence of cataract surgery complications.
- Further research study should be done to implement and investigate the effect of the proposed protocol for cataract extraction surgery on decreasing the incidence of complications after the surgical technique.
- An orientation program should be prepared for the patients undergoing cataract surgery.
- Patients are in need to a simplified illustrated and comprehensive Arabic booklet including information about cataract surgery.

Based on findings of the present study, health needs management protocol has been proposed (Appendix I).

Appendix I

A developed health needs management protocol for patients undergoing day case cataract surgery.

Campbell *et al.* (2009), Hickman *et al.* (2010), Casparis *et al.* (2012) and Vincent & Patalano (2012).

Purpose: To outline nursing responsibilities on needs management pre / post cataract extraction surgery

Expected patient outcomes:

- Regain sufficient visual acuity to maintain ADLs, including reading and watching television for enjoyment

- Patient will experience reducing level of anxiety.

- Patient will follow prescribed postoperative care and safety precautions.

Clinical assessment:

- Check physical assessment sheet (neurologic, respiratory, cardiovascular, and abdominal assessments are essentially normal).
- Check patients' eye assessment sheet (pupils are round and equal, and react briskly to light and accommodation. conjunctivae is pink, sclera and corneas are clear).
- Assist doctor on examining patients by the ophthalmoscope or Fundoscope.
- Check the intraocular pressures measurement.
- Assure that no disease of the blood vessels, retina, macula or disc is found.
- Reviews operative procedure with the patients, answering their questions and telling them what to expect after the surgery.
- Follow preoperative protocols in preparing and transporting patients to surgical room.

Implementation:

****Morning of the surgery**

Assess patients for the following:

- Take the medications on morning of the surgery and do not take insulin unless told to do so, added to Bring inhalers to the hospital.
- Wear short-sleeved button front shirt or blouse and no undershirts, pantyhose or girdles.
- Leave all jewellery and valuables at home.
- Do not use scented products (perfume, aftershave, powder, spray) and eye or face make-up.
- Bring their glasses or sunglasses with them.
- Have a responsible adult who arrive them to home.

****Immediately before the surgery**

- Report family member to stay in the waiting room
- Check on results of the Blood tests which done before the surgery.
- Measuring the vital signs.

- Put the prescribed eye drops or gel into the eye.
- Connect patients to an intravenous if ordered.
- Reviewing the post-operative instructions with the patients.
- Sure that the patients are ready for the surgery.
- Ambulate patients to the operating room.
- Check on no solid food for 6 hours prior to the surgery.
- Check on no thick liquids after midnight (milk, cream, orange juice, prune juice.).
- Allow patients Up to 2 hours before the surgery, to drink clear liquids (coffee, tea, apple juice, and water, soft drinks or meat broth.). Sugar in coffee and tea is okay, but no milk products.

****Immediately after the surgery**

- Check the blood sugar and if patients are diabetic, medication should be given if needed.
- Measuring the vital signs.
- Ensure that Patients' family stay with them night of the surgery.
- Told patients to Leave eye shield on or wear glasses to protect the eye.
- Inform Patients that there will be some mucous and tears from the eye, added to the eye may feel irritated or scratchy.
- Given the prescribed medications.
- Allow oral light fluid.
- Assess patients level of pain and irritability.

****Discharge instructions following the surgery**

Do

- Resume prescribed eye drops and medications as instructed.
- Spend rest of the day quietly.
- Wear glasses or eye shield at all times to protect eye from injury, at least for 1-2 weeks.
- Wash the eyelid gently with a cotton makeup pad or clean facecloth with Luke-warm tap water. Wipe from the inside corner outward.
- Wear eye shield when showering, bathing or hair washing for one week. Let the water hit the back not the face.
- Gradually increase daily physical activities.
- Sit in a chair to put on shoes.
- Sleep on back or unoperated side for 1 week. Place a pillow between the knees to help avoid turning over during sleep.
- Walking is fine.
- Television or reading will not hurt your eyes, but be sure to stop when feeling tired.
- Combing or brushing the hair gently is permitted.
- Resume the usual diet slowly
- **Contact the surgeon if:**

* The operated eye becomes very painful or swollen.

* Mucous discharge from the eye becomes more.

* Vision reduction occur in the operated eye.

Don't

- Rub or bump the operated eye.
- Get water in the eye.
- Getting soap or shampoo in the eyes.
- Drive until permitted from the surgeon.
- Put the head down below the waist for 2-3 days when bending over.
- Strain or lift anything heavier than 20 lbs. for the first week after the surgery.
- Get constipated.
- Swim, golf, or play contact sports until permitted.
- Make any important decisions or sign important papers for 24 hours.
- Drive or operate mechanical equipment for 24 hours.

Side – effects

- An itching, sticking and blurring vision in the eye.
- Aching of the eye.
- Bruising of the eyelid or eye.

Eye drops instillation

- Wash hands before and after putting in eye drops.
- Pull the lower eyelid down.
- Put the drop into the space between the lower eyelid and the eyeball.
- If using more than one type of drop, wait 5 minutes between each bottle.
- Close the eye after putting the drops.
- Gently wipe away any drops or tears with Kleenex from inside to outside corner of the eye.

Evaluation

Patients is visibly relieved when the eye patch is removed because, the vision in the operated eye is better than before the surgery even without the glasses. Patients are able to relate the recommended activities restrictions and implementing of the prescribed postoperative instructions. In addition, absence of the complications posts – surgery.

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