

## Quality of Life After Cataract Surgery in Jordan

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### Abstract

**Purpose:** Cataract surgery is used for the removal of cloudy lens of eyes to reduce chances of blindness or any kind of visual impairments. The surgery is helpful to treat vision impairment, reduce chances of blindness, and bring positive impacts on quality of life among patients. The study aims to demonstrate key improvements in quality of life in terms of visual acuity and general quality of life after cataract surgery in Amman, Jordan.

**Methods:** The effect of cataract surgery on quality of life is assessed by using qualitative research methodology based on interviews of patients that have undergone cataract surgery. After collection of data, it is organized in forms of themes, and thematic analysis method was used for analysis of these themes.

**Results:** The outcomes obtained from data collected from participants have provided evidences that quality of life of participants has been improved after this surgery. Moreover, this study has also revealed that cataract surgery is effective to improve quality of life of participants by providing psychological, social, and emotional support.

**Conclusion:** The study has concluded that cataract surgery in Jordan not only improve quality of life in terms of visual acuity, but also bring improvements in psychological and mental wellness of a person.

**Keywords:** Quality of Life, cataract surgery, Jordan

### 1. Introduction

Cataract is characterized as a cloudy lens inside eyes that can lead to visual impairment and vision loss. This condition cannot be treated by the use of glasses or refractive surgery; for instance, LASIK and contact lenses. Cataract is a condition that usually occurs in old age to avoid impairment of vision or blindness as demonstrated by Cabezas-Leon, Garcia-Caballero Morente-Matas<sup>1</sup>. Cataract surgery is an operation that is carried out for lens removal. The critical literature review has shown that persons, having successful experience of cataract surgery would also have improvements in quality of life due to restoration of vision and enhanced self-dependency to carry out different activities. All these aspects that are related to improvement of visual acuity result in the improvement of psychological state of a person that imposes a positive impact on quality of life.

The improvements resulting from cataract surgery can be assessed after 6 months or a year as highlighted by many researchers (Cabezas-Leon, Garcia-Caballero, & Morente-Matas, 2008; Perea-Milla et al., 2011) Visual acuity that is regained by cataract surgery is considered to be effective in emotional, psychological, and social state of any individual. Healthcare system in Jordan is of high quality and is effective enough to provide good quality services to patients. The standards of care followed in Jordan are similar to standards followed in developed countries. Primary eye care services provided in Jordan are of high standard comparable to international standards. De Juan et al. (2013) mentioned cataract as a serious visual issue that occurs usually in old age and if left untreated can result in blindness. The prevalence of cataract in Jordan was found to be 37.8% among the study participants and among them almost 8.7% had cataract surgery.

In a study conducted by Rabiou et al. (2014), prevalence of cataract was assessed in Northern Jordan, and the results demonstrated that 46.7% of blindness usually occurs due to untreated cataract. Increased prevalence of cataracts with progression of age has increased incidence of blindness and other visionary issues. To overcome cataract induced visual impairment and blindness, most of the developed countries use cataract surgery as the most significant method (Perea-Milla et al., 2011; de Juan et al. 2013; Rabiou et al., 2014). The quality of life is improved by cataract surgery in terms of functional status of persons as well as generalized health and welfare of a person.

It is a fact that visual impairment affects many aspects of life and limits functional ability of person. Cabezas-Leon et al. (2005) explained that cataract is a serious condition; thus, the purpose behind the management of cataract is to bring improvement in the vision as well as to improve overall quality of life. López-Torres et al. (2004) further added that improvements in quality of life of patient after cataract surgery have been described by several researchers. Cataract surgery is aimed to improve visual abilities and benefits obtained from cataract surgery in elder people cannot be denied (Cabezas-Leon et al., 2005; Lopez-Torres et al., 2004). Quality of life is assessed to observe long-term outcomes related to cataract surgery as well as make effective decisions. This therapeutic approach is described as an effective method to protect people from visual impairments and improve health and social dimensions of individuals. As cataract is responsible to decrease quality of life in all domains by causing visual impairments and physical dependency (Rabiu et al., 2014; Lopez-Torres et al., 2004).

Cataract surgery is found to be effective in improving the chances of doing daily work and routine duties; such as personal care, hygiene, walking, going offices or parks, and visiting friends and relatives (Cabezas-Leonet al., 2008; Perea-Milla et al., 2011; de Juan et al., 2013). The improvement in vision tends to improve perception of people about timely treatment of diseases as well as to avoid severe complications that may occur if surgery was not carried out. Ramke et al. (2017) stated that psychological functionality is improved by undergoing cataract surgery for treatment of cataract as evident from different research studies. Lledo et al. (1998) further added that improving quality of life of participants is social functionality of participants. The people become capable to participate in different activities and can manage their social relation appropriately and their perception about health and satisfaction is positively affected (Cabezas-Leon et al., 2005; Ramke et al., 2017). The visual impairment and efficiency of cataract surgery was not related to quality of life few decades before; however, the trend has changed now (Lledó et al., 1998). Nijkamp et al. (2002) also presented similar results and further provided fact that these factors tend to improve quality of life by enhancing physical, social and psychological aspects of life .

The study aims to describe the impact of cataract surgery on quality of life among patients in Jordan. It has described the impact of cataract surgery on functional status of a person and health and welfare aspects. It has also described the improvements in quality of life in terms of improvements in physical functionality, social functionality, and psychological functionality.

## **2. Methodology**

This research study is based on the evaluation of impact of cataract surgery in overall improvement in quality of life of patient. A primary qualitative design based on semi-structured interviews from participants is used in this study. This research design is appropriate for this study with reference to research conducted by Creswell (2013). The rationale for selecting this research design is to collect relevant data from participants that can be used to evaluate benefits of cataract surgery on quality of life of people with cataract. The participants for this study are collected by the use of convenience sampling method. Convenient sampling approach was used to access suitable participants for this research. The study has included individuals of age group 50 years or more that have undergone cataract surgery within 6 months to 1 year. The reason for selecting participants that have experienced cataract surgery within 6 months to a year was to access long-term impact of cataract surgery on quality of life of individuals. The data has been collected from hospitals of Jordan and targeted patients who had underwent cataract surgery during the period of 1 year. However, the study focuses to include adult patients aging more than 50 years; therefore, the sample size used for this research was 100 participants meeting inclusion criteria of this research. The semi-structured interview method based on questions related to quality of life is used for the collection of accurate data from participants. Some questions were about age, gender, time of cataract surgery; while, other questions were related to impact of cataract surgery on improvement in quality of life of participants. As explained by Punch (2013), taking ethical standards into consideration is important before proceeding to data collection. After taking consent from participant, interview was continued. The instrument used for collection of data was semi-structured questionnaire consisted of open-ended questions and the participant provided detailed answers about improvements in quality of life of participants. The data collected from participants is organized in form of themes and this thematic analysis was carried out for getting outcomes of research.

### *2.1 Ethical Consideration*

It is imperative to consider ethical standards to maintain integrity and quality of research before carrying out any research. The researchers have taken permission from Ethical committee before selecting participants and collecting data from them. According to ethical standards it is essential to collect participant's consent before collecting and using information taken from them. Therefore, consent was also taken from participants of research. Ethical standards also ensure that confidentiality and anonymity of participants is maintained and information

collected from them is secured. The researchers are held accountable for securing data and managing accessibility of data.

### 3. Results

Cataract surgery has resulted in effective improvements in the physical performance of individuals, concerning the relation of physical functionality.

#### 3.1 Functional Ability

When the participants were asked about the effects of cataract surgery on physical functional ability, most of participants revealed that they have observed a significant improvement in their physical capabilities. One of the participants explained that;

*“I was unable to perform my daily activities such as walking, visiting friends, bathing myself due to vision impairment. This condition has increased my dependency on my son and I feel embarrassed sometimes. After my visit to doctor, he recommended me to undergo cataract surgery and I took the decision. I am happy that my physical activities are increased after this surgery.”*

According to participants, their daily activities such as dressing, walking, leaning, going up stairs, and bathing have been improved. Some participants also explained that they have gained much more confidence in doing daily chores as they feel independent and capable to perform all activities. Another participant added that;

*“After cataract surgery I have become more confident as I can carry out my daily chores without support of any one. I have observed that cataract surgery has not only improved my vision but also enhanced my own potential for doing work.”*

According to participants, the decision to cure their visible impairment through cataract surgery has been made due to the past successful experiences. One of the participants has asserted that;

*“There is a woman in my village that really benefited. She was totally blind and now she has resumed normal life”.*

Another participant has responded that the decision for cataract surgery was essentially made due to its effectiveness and successful consequences after the surgery.

*“I actually see it is a disturbance to go for one eye operation only.”*

In addition, another patient has added;

*“I’m hoping that it is going to help with the vision as well, though I do understand that there may be other surgery afterwards that may be needed to help with the vision.”*

One of the potential risks mentioned by participants was the double vision or blurry vision. Therefore, these participants have opted to undergo cataract surgery.

*“I was quite looking forward to having this done... so that I haven’t got double vision.”*

In addition, another participant has mentioned that;

*“I get slightly blurry vision first thing in the morning if I look up too fast, but that’s just, it’s just getting used to what has been done, it takes ages for things to recover correctly.”*

#### 3.2 Performing Activities

When participants were asked about limitation in performance and activities occur due to impaired vision, the participants answered that cataract surgery has improved their physical health and dependency and limitation of role is reduced. For instance, one of the participants responded that;

*“Visual impairment not only affects personal and social life but limitation of role also occurs in work life. Such limitation of role increases social and economic burden on a person. This exactly happened to me when my vision was impaired due to cataract”.*

He further added that;

*“After cataract surgery, I am able to carry out my all activities, and my social and work life has also been improved. According to me, cataract surgery is best option for treatment of cataract and avoids visual impairment and blindness.”*

One of the participants have expressed his views when making decision for cataract surgery and asserted that he was very confused whether to cure his eyes through surgery or not.

*“I feel very embarrassed (...) you must depend on someone just, like a little kid.”*

He further added that;

*"I just want to move forward, and if that means taking a risk with one of my eyes, and I'm pretty sure that they wouldn't recommend it if they didn't have such a good success rate, and I think that's a massive thing."*

Participants have mentioned that they were aware of the risks with cataract surgery and it could impact their physical activities as well. But, they have no other option left to cure their eyes using cataract surgery.

*"I know there are risks with the operation. And to me, the risks if I don't have it done are definite...If I have the operation done it's, yes there can be complications, but it's not certain that you'll get them."*

After the surgery, these participants have responded that;

*"I was really pleased, I didn't think it would work as well as it did... but I was really quite surprised when all the swelling went down, how far back it had gone and how almost normal it looked."*

In addition, one of the participants has responded that;

*"But they have operated on the left eye and now of course that is the blind eye, to call it a name. I was expecting good eyesight when I had the operation but now it is just halfway now instead of all the way up."*

### 3.3 Social Functionality

When the participants were questioned about social functionality, majority of the respondents stated that improvement in social activities result due to enhanced autonomy. The participants further explained that their social activities as well as relations have been improved after this surgery. One of the participants shared his experience that;

*"When I was diagnosed with cataract, I did not consider cataract surgery imperative and delayed the process. However, after sometime, I felt that my vision is getting blur and even I was unable to visit my friends and attend other events due to vision impairments. My social activities were reduced and I was depressed. My doctor recommended cataract surgery again and I took decision immediately and I am satisfied with my decision. The cataract surgery has not only regained my vision but also social activities and events."*

Majority of participants want to enhance their social functioning but they were afraid due to the consequences of the surgery as witnessed from past experiences. One of the participants has expressed that;

*"I have the fear that I might lose my remaining vision like what happened to my mother and still I have some small children to take care of"*

She further added;

*"I'm hoping soon I will start going out with my friends again"*

Another participant has expressed his concerns regarding the consequences;

*"I've got a sense of, I don't know, a sense of since I've not got anything holding me back, I can do anything I want."*

### 3.4 Health and Emotional Capability

The improvements in physical activity and roles can also be associated with emotional capability of a person. If a person is able to perform his activities, and have general healthy status, he is emotionally stable; while, emotional capability of a person is reduced in case of impairment. Patients with cataract as low visual acuity may lead to negative emotional impact on a person. One of participants explained his regain of emotional capability;

*"Cataract and limited visionary ability has reduced my emotional power and continuous negative thoughts of getting blind affected my emotional health. My son enforced me for cataract surgery and after successful surgery; my negative thoughts of getting blind have been vanished."*

Regarding perceptions of individuals about health, it was also found that health of individuals is likely to improve after cataract surgery. Feelings of individuals about being healthy and health was found to be improved after this surgery. As explained by a participant;

*"Regaining my vision is most exciting experience of my whole life and I feel myself healthy and capable to do all activities."*

Regarding fatigue or energy related to this surgery, patient revealed no significant fatigue or energy, however, emotional stability was enhanced and patient felt more emotional strength after this surgery. When patients were asked about any changes in bodily pain, majority of participants explained that frequency of pain affect daily activities and positive point about cataract surgery was less pain and fast recovery. When participants were asked about impact of cataract surgery on emotional performance of a person, participants revealed that social

dysfunctions that were occurring due to emotional problems have been reduced after surgery. The enhanced social capabilities of people after cataract surgery has resulted in enhanced emotional performance. As explained by a participant;

*“Ability to make or continue social interaction requires emotional stability and strengths and vision restoration is an important factor in this respect. Vision is required for psychological well-being of a person and positive interaction with society.”*

Majority of participants have shown their views regarding the safe surgery and relief provided by surgeons during the surgery. One of the participants has expressed her views;

*“There are varying degrees of things that could go wrong or in the worst case I could lose an eye, but I’m in safer hands”*

She further added;

*“I was more concerned I think when they said it was bilateral rather than unilateral; I thought ‘that’s a bigger operation then’. And then of course after that you think, well what’s going to be the healing time on that? How long will I be out of action?”*

As safer the surgery, the expectations were also more directed toward the positive consequences. Number of participants has shown their views regarding the health and emotional capability after cataract surgery.

*“The only thing I was expecting was the prominence will be less, but I don’t know to what extent. Will I look exactly like before?”*

One of the participants has expressed that;

*“Hopefully the redness will go. And they will just go back to a more normal position”*

### 3.5 Mental Health

Mental health has a great association with cataract and visual impairment and quality of life is significantly associated with vision. The visionary impairment occurring due to cataract affects mental health of a person. The participants’ response for question about the impact of cataract surgery on mental health has demonstrated that overall dimensions of mental health have been improved. The level of anxiety and depression has been reduced with cataract surgery and most of participants added that their psychological well-being and self-control have been increased by cataract surgery. Several research studies have also presented similar outcomes that cognitive functions are significantly affected by visionary impairment. One of these participants revealed that;

*“I was in continuous phase of depression after being diagnosed with cataract and this depression affects my general health and functional ability. Yet, after cataract surgery, I regain vision and all other positive aspects of my life.”*

He further added;

*“I can see things whenever I wear glasses, and I will do it this way until I cannot see without the surgery. At that time, I will have to have the surgery and maybe I will be more worried about it.”*

One of the participants has expressed his concerns related to the surgery;

*“It’s about my eyes so I gone through the surgery, even though I was worried about it. My friend recommended that I have it, so I gone through it.”*

The positive outcome of the surgery has been witnessed among number of participants. One of the participants has asserted;

*“My vision became bad suddenly and I was a little shocked. Now my vision is better.*

He further added;

*“I asked advice of my friend and referred to the hospital for the surgery because I felt so scared of losing my eyes. Now, I feel much positive towards my eyes after the surgery and getting my visual ability normal.”*

### 3.6 Impact on Quality of work Life

When the participants who were working in any office or organization were asked about impact of cataract surgery on quality of work life, all participants have revealed that their work life has been improved. One of these participants who were breadwinner for his family explained that;

*“When my ophthalmologist told me after checkup that I am suffering from cataract and delaying cataract surgery*

*can lead to serious visual impairment, I was worried about my job. Taking decision of cataract surgery was like a risk for me, but my ophthalmologist ensured that my vision will be improved that will enhance my working capability. Thus, I was ready for surgery and I am satisfied with my decision as my vision has become better and I am performing my work efficiently.”*

Another participant described that,

*“Improvement of vision due to cataract surgery affects every aspect of life positively and I never regret my decision of cataract surgery.”*

The above results have clearly demonstrated that cataract surgeries have not only brought positive improvements in visual acuity but have also improved quality of life of participants. Different aspects of life that are positively affected by cataract surgery include physical functionality, social functionality, and emotional stability of a person. Ability to carry out daily activities is increased in most of participants that has increased confidence level of participants. The improvements in visual acuity due to cataract surgery also bring improvements in mental health of persons. Visual impairment resulting from cataract leads to depression and stress in patients and their emotional performance is also reduced. The overall mental health of cataract patient is also affected due to limitation in role, increased dependency, and decreased social performance. All these factors induce risks of mental health issues and visual acuity improvements due to cataract surgery decrease risks of developing these conditions.

#### **4. Discussion**

The quality of life and functional improvements related to cataract surgery are consider as prime outcomes of any treatment option used for patient for treatment of cataract (Cabezas-Leon et al., 2008; Perea-Milla et al., 2011; de Juan et al., 2013; Rabiou et al., 2014; Cabezas-Leon, et al., 2005). Several observational and experimental studies have described that cataract surgery has significant and long-term effects on functional aspects that are vision dependent (Lopez-Torres et al., 2004; Ramke et al., 2017). Almost 90% of patients experiencing first cataract surgery have presented many improvements in vision and functional status of these individuals. In addition, improved visual and functional activity has been reported in almost 80% of participants about 1 year after cataract surgery (Lledó et al., 1998). A recent study carried out on patients who had this surgery have demonstrated that chances of functional impairment are reduced in both males and females after this surgery (Khandekar et al., 2015).

The impact of visual impairments on men affects employment, driving, and glare; whereas, difficulties faced by women include problems in carrying out recreational activities as well as daily work. There is close association between cataract surgery and capability to carry out functions that are vision dependent. Several research studies have also presented similar results as obtained from findings of this research (Khandekar et al., 2015; Fazzi et al., 2015). One of these improvements is better visual function, and improvements in quality of life of individuals. The physical functions such as mobility are dependent on visual function and loss of vision or impairments in vision may lead to severe issues in physical and mental health of a person. There is significant strong association between vision and quality of life (Farmer, Innes-Wong, Bergman-Hart, Casson, & Crompton, 2015). Cataract surgery leads to improvements in visual function and may preserve overall health status and functional performance of a person by preventing risks of disability in elders and reducing chances of accidents and injuries (Li, Du, & Du, 2015).

The blurred vision once, twice, or more in a month affect well-being and functional efficiency of a person. Therefore, evaluation of outcomes of this research study as well as relating these results with already published research studies has presented few important aspects (Ilechie, Boadi-Kusi, Ndudiri, & Ofori, 2012). These improvements are reported almost two months after cataract surgery and these gains in vision, physical and mental health as well as improved social and emotional condition are apparent for almost 4 months. However, the major effects are observed after six months (Farmer et al., 2015; Li et al., 2015; Ilechie et al., 2012; Danquah et al., 2014). The mean improvements in vision and health of patient are seen after almost a year after surgery .

Another important aspect presented by many studies is that second eye surgery can results gains in visual functions, improves overall health, and quality of life of patients. This study as well as other research studies have discussed that cataract extraction during cataract surgery may lead to restoration of visual functions of a person (Porela-Tiihonen et al., 2016). The improvements in visual functions due to cataract surgery includes better corrected vision, enhanced ability to read and do work without spectacle of person dependence, and reduced glare. Furthermore, ability to see in dim light as well as color vision is also improved in cataract surgery. The improvement in visual function enhances other activities of a person (Lam et al., 2015).

Research studies have also highlighted improvements in physical functions of an individual after cataract surgery. The evaluation of outcomes of this research and related research studies has showed that a critical benefit obtained

from this surgery is enhanced potential to carry out daily chores and everyday activities (Cinaroglu, Hearld, & İgici, 2017; Porela-Tiihonen, Kokki, Kaarniranta, & Kokki, 2016). Mental health is another factor that has a significant association with cataract surgery induced improvements in quality of life. It is clear from findings of this research and other research studies that emotional health and mental well-being of a person are other important outcomes obtained from cataract surgery. Important benefits with respect to mental health achieved after cataract surgery are decreased level of stress and depression and improved independence and self-esteem of a person (Lam et al., 2015; Cinaroglu et al., 2017; Porela-Tiihonen et al., 2016; Kubik, Tabis, Romanowska, & Mozdziejz, 2015).

The results of current study clearly state that majority of the patients have aimed improvements in visual functions after this surgery. However, careful attention is required to achieve these results. The plan for cataract surgery as well as approaches used should be based on assessment of patient and has potential to bring positive outcomes. Another considerable point is gap in current literature regarding impact of cataract surgery on quality of life of Jordan people. Survey studies with large sample size and follow-up for at least two years are required to demonstrate improvements on quality of life in terms of improvements in vision as well as physical, emotional, and social well-being of a person.

## 5. Conclusion

The evaluation of results has provided evidences that quality of life of cataract patients is improved after cataract surgery. The findings have suggested that some improvements that are related to quality of life mentioned by participants were improvement in performance of daily activities, better quality of social life, decreased dependency, gains in emotional life components and financial benefits due to job retention, and enhanced performance. Recently, the advancement in healthcare system is not only focused on treatment options that are used for treatment of any disease, but also consider strategies and interventions employed for bringing improvement in life quality. The results have concluded that cataract surgery is a justified approach that can lead to beneficial improvements in visionary function, areas of daily living, and overall quality of life. Furthermore, it is also important to consider that delay in the cataract surgery can affect overall quality of life negatively.

Future studies are required to focus on risks that are associated with delay in cataract surgery and complications in vision and neovascular glaucoma complications. The complications and risks associated with delay of this method have made it clear that cataract surgery is required to gain enormous benefits. Implication of this research study is effective as improvements in visual activities of people are required to make them independent. This highlights the need of high quality cataract surgery to all patients irrespective of age, gender, and literacy. The foremost limitation of this research study is the smaller sample size due to which, it is difficult to generalize outcome of research. The accurate outcomes can be obtained by using quantitative research design on a large sample size. Further research studies with large sample size and consideration of other themes and aspects are required.

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## Competing Interests Statement

The authors declare no conflict of interest.

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