Original Article
DOI: https://doi.org/10.70749/ijbr.v3i6.1475

INDUS JOURNAL OF BIOSCIENCE RESEARCH
https://induspublishers.com/IJBR
ISSN: 2960-2793/ 2960-2807

Effects of Counseling on Post-Operative Cataract Discharge Care in Promoting Self-Care Compliance Behavior: A Quasi-Experimental Design

Rozina Khowaja[1], Binafsha Manzoor Syed[2], Shaneela Khowaja[1], Sabiha Sarwar[1], Irum Qureshi[1], Damiya Naeem Ali[3]

[1]People's College of Nursing, Liaquat University of Medical and Health Sciences, Jamshoro Pakistan
[2]Medical Research Center, Liaquat University of Medical and Health Sciences, Jamshoro Pakistan
[3]Mehran University of Engineering and Technology, Jamshoro, Pakistan

ARTICLE INFO

Keywords: Effect of counseling, Post-operative cataract discharge care, Self-care compliance behavior, cataract surgery

Correspondence to: Rozina Khowaja, People's College of Nursing, Liaquat University of Medical and Health Sciences, Jamshoro Pakistan
Email: rozinakhowaja110@gmail.com

Declaration
Authors' Contribution: All authors equally contributed to the study and approved the final manuscript.

Conflict of Interest: No conflict of interest.

Funding: No funding received by the authors.

Article History
Received: 28-03-2025 Revised: 26-05-2025
Accepted: 09-06-2025 Published: 21-06-2025

ABSTRACT

Background: Cataract-related blindness remains a significant public health concern, especially in low-resource settings like Pakistan. While cataract surgery is effective in restoring vision, post-operative self-care is critical to ensure successful recovery and prevent complications. **Objective:** This study aimed to evaluate the effectiveness of structured counseling sessions in enhancing self-care compliance among post-operative cataract patients. **Methods:** A quasi-experimental post-test design was used involving 300 cataract patients from Sindh Institute of Ophthalmology and Visual Sciences in Hyderabad from 10th June, 2024 to 10th December 2024. Participants were divided into interventional and control groups. The intervention group received structured counseling on discharge care, while the control group received standard instructions. Self-care compliance was assessed at follow-up using a structured questionnaire. **Results:** The interventional group showed significantly higher compliance across multiple self-care domains, including hygiene, activity restrictions, and medication adherence. Statistical analysis revealed a significant difference in compliance scores between the two groups ($p < 0.05$). Despite improvements, barriers such as limited literacy and socioeconomic constraints influenced long-term adherence. **Conclusion:** Structured counseling significantly improves self-care practices following cataract surgery and offers a cost-effective, patient-centered approach for improving surgical outcomes in resource-limited settings. Future strategies should incorporate digital tools, caregiver involvement, and community-based support to sustain long-term adherence and optimize patient outcomes.

INTRODUCTION

Cataract-related blindness is a significant global public health concern, and the second leading cause of visual impairment, imposing a substantial burden on healthcare systems worldwide. Evidence indicates that cataracts account for nearly 50 percent (47.8% or 17.7 million) of global blindness.[1] This challenge is particularly pronounced in low-and middle income countries (LMICs), where untreated cataract not only reduce quality of life but also contribute to economic hardship due to loss of employment and increasing caregiving needs.[2] In Pakistan, cataracts alone account for 51.5% of all blindness [3], highlighting the urgent need for targeted interventions.

While cataracts affect individuals across all age groups, those over 50 are particularly vulnerable. Cataract surgery is a minor, cost-effective procedure with a high success rate in restoring vision. However, if left untreated, cataract significantly increase the risk of severe vision impairment and complete blindness.[4] Despite the availability of surgical treatment, a lack of awareness regarding post-operative care contributes to poor health outcomes. Studies suggest that inadequate knowledge about self-care after surgery leads to complications, delayed recovery, and persistent visual impairment, exacerbating socioeconomic and psychological challenges for patients and their families.[5]

Although post-operative care education is well-documented as essential for improved surgical outcomes, LMICs, including Pakistan, lack standardized patient education strategies tailored to literacy levels and native languages. A study conducted in Pakistan found that approximately 20% of participants had inadequate knowledge about cataracts and post-operative care.[5] Additionally, many cataract patients have short hospital stays, limiting the time available for discharge education. Nurses play a crucial role in bridging this gap, but existing educational efforts are often unstructured and inconsistently delivered.[6] Research emphasizes that

effective discharge instructions significantly reduce complications, facilitate early recovery, and enable patients to resume daily activities more quickly.[7] However, without structured counseling, particularly in native languages, patient adherence remains suboptimal.

Pakistan faces significant economic constraints, with an estimated 37.2% of the population living in poverty as of 2023.[8] These financial limitations restrict access to essential healthcare services, further increasing the burden of untreated cataracts. The country's healthcare system also faces resource shortages, necessitating cost-effective strategies to enhance patient outcomes. Given these challenges, structured counseling on post-operative cataract care serves as a critical public health intervention. Educating patients about essential self-care practices—including daily activities, surgical site protection, hygiene, and medication adherence can prevent complications and promote faster recovery.[9'10] Ensuring that these sessions are conducted in patients' native languages can further enhance comprehension and adherence.

This study evaluated the effectiveness of structured counseling sessions on post-operative cataract care in promoting self-care compliance among patients. The intervention focused on equipping patients and their families with essential knowledge and skills to manage post-operative recovery effectively. By assessing the impact of these sessions, this study seeks to determine their role in improving visual acuity, preventing surgical site infections, reducing anxiety, and enhancing overall patient satisfaction. The findings contribute to the development of evidence-based strategies for integrating patient education into cataract care practices, ultimately improving surgical outcomes in resource-limited settings. Additionally, this intervention has demonstrated the potential to decrease patient distress, improve satisfaction with surgical outcomes, and enhance adherence to treatment regimens. On a broader scale, the findings can inform policy recommendations for integrating structured counseling into cataract care pathways, ultimately improving long-term visual health outcomes in LMICs like Pakistan.

METHODS AND MATERIALS

The study used a quasi-experimental two-group (experimental and control) post-test design. The experimental group received a counseling session on post-operative discharge care, and was assessed using a questionnaire on self-care compliance, at the time of first follow-up. However, the control group received routine care, and was assessed using the same questionnaire on self-care compliance at the time of first follow-up. The stipulated duration for this study was set at a span of four to six months. The research was conducted at the Sindh Institute of Ophthalmology and Visual Sciences (SIOVS), Hyderabad Sindh. Purposive sampling is was particularly suited for this study as it purposefully selected participants undergoing cataract surgery. A sample size of approximately 300 cataract patients was selected from the Sindh Institute of Ophthalmology and Visual Sciences in Hyderabad from 10th June, 2024 to 10th December 2024. The size of the sample was calculated based on the prevalence of cataracts among the Pakistani population i.e. 10.48%, using Open Epi version 20 software with a 5% margin of error and 80% power. The required sample was inflated by 10% to cover for missing data.

RESULTS

The results of the quasi-experimental study were analyzed using both descriptive and inferential statistical methods. First, the analysis included demographic information about the study participants, which are individuals who had undergone cataract surgery, focusing on variables such as gender, age, religion, and education. It further explores the self-compliance behaviors by looking at the scores of both the interventional and control groups across different domains, from eye drop usage to protection measures and hygiene and on to daily life activities. Additionally, the analysis compared as well as a direct comparison of compliance scores from male and female participants using patent education based interventions.

Table 1

Summary of Demographic characteristics in Interventional Versus Control Groups

Variable	Category	Interventional Group		Control Group	
		No	%	No	%
Gender	Male	87	58.00	77	51.33
	Female	63	42.00	73	48.67
Religion	Islam	134	89.33	136	90.67
	Christian	9	6.00	6	4.00
	Hindu	7	4.67	8	5.33
Marital Status	Single	13	8.67	8	5.33
	Married	123	82.00	120	80.00
	Divorced	9	6.00	7	4.67
	Widow	5	3.33	15	10.00
Residence	Rural	9	6.00	21	14.00
	Urban	112	74.67	93	62.00
	Urban-Slum	24	16.00	33	22.00
Employment	Employed	64	42.67	45	30.00
	Unemployed	37	24.67	43	28.67
	Retired	2	1.33	4	2.67
Education	No Education	109	72.67	115	76.67
	Primary School	4	2.67	6	4.00
	Secondary School	8	5.33	15	10
	Higher Secondary	20	13.33	8	5.33
	University	9	6	6	4
Income	No income	105	70.00	120	80.00
	1000-10000	10	6.67	8	5.33
	10000-30,000	22	14.67	8	5.33
	30,000-50,000	7	4.67	7	4.67
	Above	6	4.00	7	4.67

Table 1 compares the demographic characteristics of the interventional and Control Group. The interventional Group had a higher proportion of males (58%), greater percentage of Christians (6%) and larger proportion of singles (8.67%) and employed individuals (42.67%) in contrast to the Control Group .Furthermore, a greater percentage of particiapnst in the interventional Group had secondary education compared to control group. A larger share of the interventional group resided in urban areas (74%), Additionally, more participants in the interventional Group fell within the income range of 10,000-30,000 (14.67%) compared to the control Group (5.33%).

Table 2

Summary of Medical history of Interventional versus Control Groups

Variable	Category	Interventional Group		Control Group	
		No	%	No	%
Previous Eye Examination	Yes	71	47.33	67	44.67
	No	79	52.67	83	55.33
Regular Checkup of Eye	Yes	75	50.00	63	42.00
	No	75	50.00	87	58.00
Last Eye Visit	Yes	100	66.67	89	59.33
	No	50	33.33	61	40.67
Duration of Eye Problem	0-2 years	117	78.00	113	75.33
	3-4 years	29	19.33	35	23.33
	5 and above	4	2.67	2	1.33
Examination of Cataract	Yes	139	92.67	99	66.00
	No	11	7.14	51	34.00
Previous Cataract Diagnosis	Yes	143	95.33	128	85.33
	No	7	4.66	22	14.67

Table 2 shows that the interventional group had higher engagement with eye care services than the control group. A greater percentage had previous eye examinations (47.33% vs. 44.67%), regular eye check-ups (50.00% vs. 42.00%), and recent visits to an eye doctor (66.67% vs. 59.33%). The Interventional Group also had more participants who had eye examinations for cataracts (92.67% vs. 66.00%) and a previous cataract diagnosis (95.33% vs. 85.33%).

Table 3

Comparison of Self Compliance Items among Interventional and Controls

Variable	Category	Interventional (n)	%	Control (n)	%
Washing My Hands Before the Eye Drop	a. not done	6	4.00	16	10.67
	b. done sometimes	46	30.67	40	26.67
	c. done always	98	65.33	94	62.67
Not Let the Tip of Bottle Touch the Eye or Eyelid	a. not done	23	15.33	28	18.67
	b. done sometimes	66	44.00	36	24.00
	c. done always	61	40.67	86	57.33
Instilling Eye Drop as Indicated Frequency	a. not done	0	0.00	2	1.33
	b. done sometimes	18	12.00	16	10.67
	c. done always	132	88.00	132	88.00
Instilling Different Eye Drops at 5 Minute Intervals	a. not done	9	6.00	20	13.33
	b. done sometimes	60	40.00	35	23.33
	c. done always	81	54.00	95	63.33
Washing Hair but Did Not Wet Operated Eye	a. not done	50	33.33	31	20.67
	b. done sometimes	56	37.33	51	34.00
	c. done always	44	29.33	68	45.33
Washing Face but Did Not Wet Operated Eye	a. not done	22	14.67	25	16.67
	b. done sometimes	76	50.67	59	39.33
	c. done always	52	34.67	66	44.00
Having Shower but Did Not Wet Operated Eye	a. not done	46	30.67	27	18.00
	b. done sometimes	54	36.00	39	26.00
	c. done always	50	33.33	84	56.00
Applying Eye Shields During the Bedtimes	a. not done	50	33.33	53	35.33
	b. done sometimes	35	23.33	24	16.00
	c. done always	65	43.33	73	48.67
Avoid Rubbing or Compressing the Eye	a. not done	3	2.00	12	8.00
	b. done sometimes	20	13.33	16	10.67
	c. done always	127	84.67	122	81.33
Avoid Sleeping on the Side of Operation or Lying on Face	a. not done	16	10.67	11	7.33
	b. done sometimes	71	47.33	48	32.00
	c. done always	63	42.00	91	60.67
Avoid Facing Flame/Watching TV for 7 Days After Surgery	a. not done	10	6.67	16	10.67
	b. done sometimes	61	40.67	49	32.67
	c. done always	79	52.67	85	56.67
Avoid Exposure of the Eye to Sun Rays Without Glasses	a. not done	22	14.67	14	9.33
	b. done sometimes	32	21.33	61	40.67
	c. done always	96	64.00	75	50.00
Avoid Exposure to Dirt, Flame, and Dust	a. not done	4	2.67	11	7.33
	b. done sometimes	25	16.67	17	11.33
	c. done always	121	80.67	122	81.33
Visiting the Clinic on the Reserved Follow-up Date	a. not done	15	10.00	26	17.33
	b. done sometimes	16	10.67	14	9.33
	c. done always	119	79.33	110	73.33
Restricting Activities and Strenuous Exercise	a. not done	7	4.67	9	6.00
	b. done sometimes	13	8.67	18	12.00
	c. done always	130	86.67	123	82.00

In Table 3, The interventional Group showed higher compliance in several self-care practices compared to the control Group. For hand hygiene before applying eye drops, 65.33% of participants in the interventional Group always washed their hands, slightly outperforming the control Group, where 62.67% adhered to this practice.

Regarding sun exposure, a larger proportion of the interventional Group (64.00%) always avoided exposure without glasses, compared to 50.00% in the control Group, indicating better adherence to protective measures. Similarly, for restricting activities and strenuous exercise post-surgery, 86.67% of the interventional group followed the guideline, slightly ahead of the control group, which had 82.00% compliance. In terms of avoiding exposure to dirt, flame, and dust, both groups had similar compliance rates, with 80.67% in the interventional group and 81.33% in the control group. However, the interventional group demonstrated slightly more consistency overall.

Table 4

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Interventional (Group 1)	34.8000	150	2.89178	0.23611
Control (Group 2)	37.3867	150	5,79491	0.47315

Table 4 shows the mean score for the interventional group is 34.80, which is lower than the mean score for the control group (37.39). The standard deviation for the Interventional group is 2.89, indicating relatively lower variability in scores compared to the Control group, which has a higher standard deviation of 5.79.

DISCUSSION

This study assessed the impact of structured counseling on self-care compliance among post-operative cataract patients using the Self-Care Compliance Scale. The findings underscore the significance of patient education in improving adherence to discharge care instructions, ultimately leading to better recovery outcomes. The results revealed that patients who received structured counseling demonstrated significantly higher compliance with self-care practices compared to those who only received standard discharge instructions. These findings are consistent with prior research, including studies conducted in Indonesia and Egypt, which found that perioperative education enhances coping in cataract patients.[8,9]

However, evidence regarding the long-term effectiveness of educational interventions on self-care compliance remains mixed. While structured counseling significantly improves knowledge and short-term adherence, a study conducted in England introduced that sustained behavioral change may require ongoing reinforcement and support.[10] Socio-economic conditions, caregiver support, and baseline health literacy play are critical factors influencing adherence. Similarly, another study reported that patients with limited literacy or inadequate caregiver support may struggle with post-operative care despite receiving structured counseling.[11] These insights highlight the needs for multi-faceted interventions, as periodic follow-up education and integration of community-based support systems, to sustain compliance over time.

Furthermore, studies emphasize the importance of interactive and personalized educational strategies. A single structured counseling session may not be sufficient for long-term behavioral change, particularly among vulnerable populations. This aligns with study in Iran suggests that incorporating digital education tools, repeated reinforcement, and family engagement may enhance long-term adherence to post-operative care recommendations.[13] Future studies should explore the effectiveness of such integrative approaches in improving self-care behaviors beyond the immediate post-operative period.

The statistical analysis further validated the impact of counseling interventions, with the paired sample test indicating a significant difference in compliance levels between the intervention and control groups ($p < 0.05$). These results support the inclusion of structured counseling sessions into routine discharge protocols for cataract surgery patients, especially in low-resource settings such as Pakistan, where limited health literacy remains a major barrier to optimal post-operative care. In the context of economic constraints and healthcare disparities, empowering patients through tailored education can play a pivotal role in preventing post-operative complications and enhancing overall visual health outcomes.

Despite these promising findings, certain limitations must be acknowledged. The study was conducted at a single institution, which may limit the generalizability of the results. Additionally, self-reported compliance behaviors introduced the possibility of recall or reporting bias. Future research should focus on longitudinal studies to assess sustained adherence and evaluate the long-term impact of educational interventions. Integrating caregiver involvement and follow-up support into patient education strategies could further enhance self-care compliance and overall recovery outcomes.

CONCLUSION

This study underscores the importance of structured counseling in improving self-care compliance after cataract surgery. Tailored education enhances adherence, recovery, and reduces complications, especially in low-resource settings like Pakistan. Integrating counseling into discharge protocols offers a cost-effective, patient-centered approach. However, long-term adherence is hindered by literacy and socioeconomic barriers. Future research should explore sustainable strategies, including digital tools and community support, to reinforce compliance and improve outcomes.

REFERENCES

1. Resnikoff S, Pascolini D, Etya'ale D.et al Global data on visual impairment in the year 2002. Bull WHO 200482844–851. [PMC free article] [PubMed] [Google Scholar] (Resnikoff, Pascolini, Etya'ale.et al, 2004). https://doi.org/10.1076/opep.11.2.67.28158
2. Abdussalam, S., (2011). Comparison of visual outcome in patients who had conventional extra-Capsular cataract extraction with posterior chamber intraocular lens and phacoemulsification with posterior chamber intraocular lens for age related cataract [online]. Last accessed 11th January 2016 at: http:/ / www.nigerian journal of ophthalmology.com.

3. ZJadoon, S P Shah, R Bourne, B Dineen, M A Khan, C E Gilbert, A Foster, and M D Khan, Cataract prevalence, cataract surgical coverage and barriers to uptake of cataract surgical services in Pakistan: the Pakistan National Blindness and Visual Impairment Survey. Br J Ophthalmologist. 2007 Oct; 91(10): 1269–1273. (Jadoon, 2007). https://doi.org/10.1136/bjo.2006.106724
4. Tabin G, Chen M, Espandar L. Cataract surgery for the developing world. Current opinion in ophthalmology. 2008 Jan 1;19(1):55-9. https://doi.org/10.1097/icu.0b013e3282f154bd
5. Limburg, H., Kumar, R., Bachani, D. (1996) Forecasting Cataract Blindness – and planning to combat it. World Health Forum, 17, 15-20. https://doi.org/10.1136/bjo.80.11.951
6. Taha, N., and Abd Elaziz, N. (2015). Effect of Nursing Intervention Guidelines on Nurses' Role, Patients' Needs, and Visual Problems Post Cataract Surgery. American Journal of Nursing Science, 4 (5): 261-269 https://doi.org/10.11648/j.ajns.20150405.13
7. ZJadoon, S P Shah, R Bourne, B Dineen, M A Khan, C E Gilbert, A Foster, and M D Khan, Cataract prevalence, cataract surgical coverage and barriers to uptake of cataract surgical services in Pakistan: the Pakistan National Blindness and Visual Impairment Survey. Br J Ophthalmologist. 2007 Oct; 91(10): 1269–1273. (Jadoon, 2007). https://doi.org/10.1136/bjo.2006.106914
8. Kurniyawan, E. H., Kartika, P. D. P., Deviantony, F., & Fitria, Y. (2023). *Perioperative Health Education Improves Coping Mechanisms in Preoperative Cataract Patients*. *1*(1), 9–15. https://doi.org/10.53713/htechj.v1i1.2
9. Troncoso, P., Panayiotou, M., & Humphrey, N. (2024). Estimating the effect of intervention compliance on long-term outcome trajectories: Application of the latent adherence growth curve model in a cluster-randomized trial of the good behavior game. *Journal of Educational Psychology*. https://doi.org/10.1037/edu0000875
10. Sørensen, P., & Lindholst, A. C. (2024). Does long-term management education change behaviors? A study of change in self-perceived leadership behaviors among participants in a three-year Danish diplomaprogram. *International Journal of Public Sector Management*. https://doi.org/10.1108/ijpsm-05-2023-0167.
11. Khademian, Z., Zahmatkeshan, N., Rakhshan, M., & Zarshenas, L. (2024). The Effectiveness of an Intervention Based on the Information, Motivation, and Behavioral Skills Model on Treatment Adherence and Self-Efficacy in Patients with Coronary Artery Diseases: An Explanatory Mixed Method Study. *Journal of Iranian Medical Council*. https://doi.org/10.18502/jimc.v7i4.16633.