

Effects of Therapeutic Advice and Patient Education on Anxiety and Satisfaction in Patients Undergoing Cataract Surgery; A Randomized Controlled Trial

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ABSTRACT

Background: Anxiety and fear are the most prevalent and most reported negative aspects associated with cataract surgery. However, it is difficult to determine the frequency of patients experiencing it. The data vary depending on the phase of procedure, study group and ophthalmic centre. Proper patient education as well as therapeutic advice may assist in reducing these adverse effects and improving clinical satisfaction and outcomes.

Objective: To determine the effects of therapeutic advice and patients' education on anxiety and satisfaction in patients undergoing cataract surgery.

Methods: This was a randomized controlled trial. The study was carried out during the months of January and June of 2021 at Link Medical Centre Lahore. Participants were chosen from list of patients who expressed interest in having cataract surgery. Patients over the age of 17 who were able to understand and communicate, who had not previously had cataract surgery, and who did not suffer from hearing loss were considered suitable. The outcomes used were Calmness scale (1-7), Cooperativeness (1-7), State-Trait Anxiety Inventory (STAI) - Trait Anxiety, low vision quality-of-life questionnaire (LVQoL), Wellbeing (1-9)

Results: The results showed that there were 15(65.21%) females in experimental and 16(69.56%) in control group. The mean age and standard deviation were found to be 69.98 (9.7) and 73.14 (14.46) in experimental and control group. The assessment conducted after intervention showed mean and standard deviation respectively in experimental and control group to be as Calmness (1-7), 6.8 (3.7) and 4.8 (2.3), Cooperativeness (1-7), 6.9 (1.2) and 5.3 (3.4), STAI - Trait Anxiety 24.8 (3.69) and 33.9 (2.36), LVQoL, 113.6 (6.8) and 88.6 (4.3), Wellbeing (1-9), 8.4 (2.12) and 7.3 (1.87), while there was significant difference in favour of experimental group (p value < 0.05) in all variables after surgical procedure.

Conclusion: The study shows that there were significant effects of therapeutic advice and patient education in favour of intervention group on patients' anxiety and satisfaction in patients undergoing cataract surgery. More research needs to be done on how well each part works on its own, and more intervention presentations are needed to figure out how well combination therapy works for lowering anxiety.

Keywords: Cataract Surgery, Patient Education, Satisfaction, Anxiety, Therapeutic Advice, Nutritional Status

INTRODUCTION

The most common negative aspect of surgery is anxiety, which is also a strong predictor of postoperative morale and pain perception.(1) According to several studies, patients undergoing cataract surgery typically suffer from fear and anxiety not only during the procedure itself but also before, after, and even during post-operative visits in certain cases.(2) An elevated level of perioperative anxiety may have several negative consequences, including an increased sensitivity to pain, blood pressure, and heart rate, as well as an increased need for medication and a reduction in compliance while the surgery is being carried out.(3) In addition, the researchers found that stress causes an increase in the pressure within the eye.(4) In the research that has been done on the topic, a psycho-educational intervention has been proposed as a method for lowering perioperative anxiety and overcoming the unfavourable impacts that it has.(5)

In spite of the fact that cataract surgery is among the most commonly performed elective surgical procedures, very few studies have been conducted to investigate the efficacy of such therapies. The researchers discovered that telling patients about the process, the experience of having surgery, and the possible hazards lessened anxiety not just immediately after the operation but also one month after the treatment was performed.(6) One such approach for alleviating anxiety before, during, or after medical treatments is to make use of encouraging vocal recommendations. In interpersonal communication, discussions are communications that provoke automatic reactions from the listener on a psychological, behavioural, or emotional level.(7)

These responses may be triggered by the message. Even though discussion is one of the most significant tools in process of hypnosis, indicative approaches may also be employed successfully even without the use of formal hypnosis initiation to increase concentration and focus.(8) According to several studies, the use of recommendations has a beneficial impact on a range of surgical outcomes, especially in terms of alleviating anxiety associated with the procedure. Research on the efficacy of positive recommendations has previously been conducted in the field of ocular surgery.(9) According to the findings of one of the studies, an intervention performed just before radial keratotomy improved patients' subjective well-being the day after surgery. However, the intervention had no impact on the number of unnecessary movements made during the procedure or the level of pain patients experienced.(10)

During cataract surgery, relaxing recommendations were played for patients, which boosted patient and surgeon satisfaction as well as the patients' degree of relaxation. However, the ideas had no influence on the patients' cardiovascular measurements or breathing. Preoperative information and positive recommendations have not yet been the subject of any research that has examined their effectiveness. In addition, past research has often concentrated on a small number of measurement points, giving data on just a portion of the phases of perioperative discomfort that have been previously recognized.(11, 12) The current investigation was to determine whether a preoperative psycho-educational intervention that included both information and positive verbal suggestions was effective in lowering perioperative anxiety. Therefore, the objective of effects of therapeutic advice and patient

education on patients' anxiety and satisfaction in patients undergoing cataract surgery.

MATERIAL AND METHODS

Participants and Study Design: This was a randomized controlled trial. According to the a priori calculation in G*Power 3.1, the sample size was estimated to be 46, which is the least required for appropriate application of a repeated-measures between-subjects design to demonstrate that there is a statistically significant difference in postoperative anxiety.(13) The study was carried out during the months of January and June of 2021. Participants were chosen from list of patients who expressed interest in having cataract surgery. Patients over the age of 17 who were able to comprehend and converse, who had not previously had cataract surgery, and who did not suffer from hearing loss were considered suitable. Patients who had previously had cataract surgery were excluded from the research to reduce the amount of anxiety that resulted from having prior experience with the treatment. Patients have stroke history or on stroke rehabilitation were also excluded.(14) A total of 183 individuals were evaluated to see whether they were qualified to participate in the study. Out of the 183 patients, 66 were given more screening, and 46 patients who completed the experiment were randomly distributed to experimental and control groups, with 23 patients in each group. (Fig. 1)

control group, patients got standard clinical therapy, but they didn't do anything to prepare psychologically. The assistant told the patients in the intervention group to listen to the audio four times before surgery to learn how to calm down and think about what they wanted. They were also told to listen to the audio one more time the night before the procedure. The eye surgeon who did the operations and a therapist with a lot of experience using positive suggestions in medical settings wrote the intervention script. It was recorded at 15 minutes and 27 seconds. The script talked about the stages of the surgery and how long it would take to recover. It also had helpful tips, ways to relax, and exercises for visualizing. For example, the CD told patients going into surgery to focus on their breathing and think of a safe place. From the script, a few lines: "When you reach the front of the operating room, you will be given different eye drops. With each drop, your eye will feel numb for as long as it takes for your pupil to get bigger. " First, your eye will be washed with something that kills germs. Some patients see this as a nice breeze that gets rid of germs and stress at the same time. In addition, an audio portion was added regarding their diet routine before and after surgery. This was recorded by qualified diet and nutritionist.(16)

Patients in the operating room were given one Xanax tablet after the first medical check-up (Alprazolam 0.25mg as an anxiolytic, a standardized method in the healthcare centre). Before surgery, the patients were in the room for about 30 minutes. Each surgery was done by the same surgeon in the same operating room with the same surgical staff. This was done so that as many of the things that could mess up the results as possible could be controlled. After the surgery, the patient went back to the perioperative room to rest for 20 minutes with their eyes closed. After a quick check, they were sent home right away. The next day, patients in the intervention group were asked how many times they listened to the audio at home before their post-op visit. Most of the patients who took part said they had listened to the tape four times. Two of the patients didn't listen to the tape at home, but they did at the medical centre, so they were still in the intervention group. Before the surgery, patients were in the room for about 30 minutes. After enrolment from Link Medical Centre, Lahore, the patients were referred to ensure that all surgeries were done by the same surgeon in the same operating room with the same surgical staff, so that as few things as possible could change the results. After surgery, patients went back to the pre-op room to rest for 20 minutes with their eyes closed. They were checked out quickly and then sent home. The intervention group came back the following day for a post-pop visit, during which they were questioned about the frequency with which they had listened to the audio recording at home. The vast majority of participants reported having listened to the audio on at least four separate occasions. Even though two patients did not listen to the audio while they were at home, they were nonetheless included as part of the intervention group since they did listen to it when they were at the medical facility.

Measures: The research was evaluated using a total of eight distinct interactive meetings. Prior to group assignment, in the perioperative room following the initial medical check and premedication, prior to surgery, Surgery 1 occurred at the initial incision; Surgery 2 occurred approximately 3 minutes later, at the start of phacoemulsification; and Surgery 3 occurred approximately 7 minutes after the initial incision, just before the leaving the operating table. The conclusion of the operation takes place at the same time as the procedure, at the end of the 20-minute rest time after the operation. At the first meeting measurement point, a wide variety of baseline parameters were documented for recording. The State Trait Anxiety Inventory (STAI) trait anxiety subscale,(17) which is comprised of 20 questions, was utilized in this investigation to determine whether or not there were any differences in the levels of trait anxiety between the two groups. In addition to that, the Low Vision Quality of Life (LVQoL) examination was carried out.(18) It was a questionnaire with a total of 25 questions. A research assistant read both exams out loud to

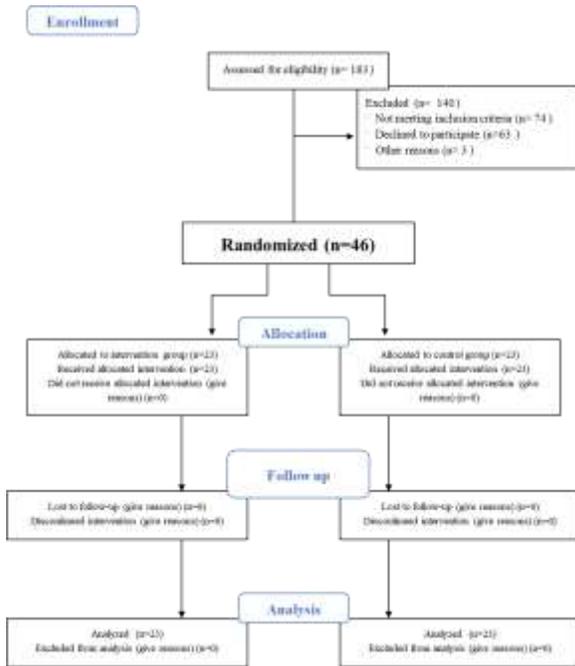


Figure 1: CONSORT Flow Chart

Procedure: The research was approved by the Link Medical Centre, Lahore, and Research Ethics Committee (reference number: lmc/lmi/cte874-214-1-6) and it followed the Helsinki Declaration, which was updated in 2007.(15) All the patients who took part signed a consent form that declared they understood the procedure. Patients were put into groups after the first data was gathered. A study assistant shuffled 23 cards that said, "control group" or "intervention group" and then put each participant in either the control group or the intervention group at random. To make sure that everyone on the research team and in the office was blind, the assistant was only in charge of putting patients into groups and did not take part in any other parts of the trial. Patients were also told not to tell anyone else what was wrong with them. The intervention group then listened to the intervention through headphones on a CD player and got a copy to use at home. In the

all of the participants because cataracts made it difficult for the majority of the participants to read. In addition to that, information such as ratings for well-being and tranquillity, age, gender, and corrected visual acuity were recorded. The heart rate (HR) was monitored before, during, and after surgery using an OVA 1 automated blood pressure monitor from Orvosi Mszerkeskedelmi Rt.(19) in the perioperative area and an Infinity Delta monitor from Drager Medical Inc. in the operating room.(20). Blood pressure was another metric that was considered for use in determining success, but it was ultimately eliminated from consideration because the operation placed such a strong emphasis on maintaining normal blood pressure levels. The research assistant who was acting as the observer stated about the patient's mental condition, and feedback regarding consultation with the surgeon, as well as in the perioperative room before and after the procedure and during the first postoperative visit after the procedure.

RESULTS

Table 1: Characteristics and Comparison at Baseline

Variables	Experimental Group, N=23	Control Group, N=23	P Value
Female Gender	15(65.21%)	16(69.56%)	0.117
Age, mean (SD)	69.98 (9.7)	73.14 (14.46)	0.102
Calmness (1-7)	4.8 (2.6)	5.3 (1.8)	0.092
STAI - trait anxiety	42.93 (3.69)	43.23 (2.36)	0.111
LVQoL	90.58 (6.8)	92.87 (4.3)	0.099
Wellbeing (1-9)	7.3 (2.12)	6.9 (1.87)	0.114
Visual acuity	0.6 (0.12)	0.4 (0.14)	0.117

The results showed that there were 15(65.21%) females in experimental and 16(69.56%) in control group. The mean age and standard deviation were found to be 69.98 (9.7) and 73.14 (14.46) in experimental and control group. The assessment conducted before intervention showed mean and standard deviation in experimental and control group, respectively to be, Calmness (1-7) 4.8 (2.6) and 5.3 (1.8), STAI - trait anxiety 42.93 (3.69) and 43.23 (2.36), LVQoL 90.58 (6.8) and 92.87 (4.3), Wellbeing (1-9) 7.3 (2.12) and 6.9 (1.87) and Visual acuity 0.6 (0.12) and 0.4 (0.14), while there was no significant difference (p value > 0.05) in all variables at baseline.

Table 2: Group Differences after Intervention and Surgical Procedure

Variables	Experimental Group, N=23	Control Group, N=23	P Value
Calmness (1-7), mean (SD)	6.8 (3.7)	4.8 (2.3)	0.012
Cooperativeness (1-7), mean (SD)	6.9 (1.2)	5.3 (3.4)	0.010
STAI - Trait Anxiety, mean (SD)	24.8 (3.69)	33.9 (2.36)	0.006
LVQoL, mean (SD)	113.6 (6.8)	88.6 (4.3)	0.011
Wellbeing (1-9), mean (SD)	8.4 (2.12)	7.3 (1.87)	0.031

The assessment conducted after intervention showed mean and standard deviation respectively in experimental and control group to be as Calmness (1-7), mean (SD) 6.8 (3.7) and 4.8 (2.3), Cooperativeness (1-7), mean (SD) 6.9 (1.2) and 5.3 (3.4), STAI - Trait Anxiety, mean (SD) 24.8 (3.69) and 33.9 (2.36), LVQoL, mean (SD) 113.6 (6.8) and 88.6 (4.3), Wellbeing (1-9), mean (SD) 8.4 (2.12) and 7.3 (1.87), while there was significant difference in favour of experimental group (p value < 0.05) in all variables after surgical procedure.

DISCUSSION

In this randomized clinical study, cataract surgery patients were given an educational intervention to determine its efficacy. In addition to providing verbal instructions about the procedure, the intervention included relaxation and reflection techniques. The surgeon reported that patients in the intervention group showed more cooperation during surgery and appeared more at ease,

especially during the post-operative visit. However, both groups had same heart rate, sleep quality the night before surgery, or self-esteem without a significant difference. Based on these findings, the intervention may be considered a method for reducing preoperative anxiety. A more targeted study of the intervention should be conducted. According to Nijkamp et al., after surgery, a patient's anxiety persists. Instead, it extends beyond the post-operative examination.(21) Our findings indicate that a prior intervention may reduce the probability of anxiety returning during the post-operative visit. In contrast to other medical professions, patients frequently assert that they have adequate knowledge of the procedure and do not seek additional information.(22) However, patients do not fully comprehend the operation and its risks, making it difficult for them to consent to surgery in an informed manner.(23) Recent research indicates that many cataract surgery patients skip patient education on purpose because they find new information disturbing. So, according to the findings of additional research, educating patients about cataract surgery may result in unfavourable anticipations prior to the procedure. This may negate or obscure the anxiety-reduction effects of early education programs. These results indicate that we should continue searching for innovative cataract education techniques. Our strategy, which combines knowledge with positive treatment concepts, may provide a solution to this problem. If the emphasis is shifted to the benefits of surgery and the information is written in a friendly manner, patients may feel less anxious. However, the current intervention did not appear to reduce preoperative anxiety, suggesting that negative expectations were not altered. Another innovation of our strategy was teaching patients how to manage anxiety. More research is necessary to establish that the intervention must be demonstrated multiple times and that the number of exposures must be strictly limited.(24) When analysing our data, it must consider the medications administered before and after surgery. The use of Xanax prior to surgery may have obscured some of the anxiolytic benefits of the procedure.(25) This may explain why no anxiety changes were observed on the day of surgery. Moreover, blood pressure was controlled with medication. Patients with chronic hypertension were given their usual anti-hypertensive medications in the morning prior to surgery, and additional antihypertensives were administered if the patient's blood pressure was abnormally high in the preceding hours. A component of our study was the use of multiple evaluation points, which allowed us to determine the intervention's efficacy at different phases of anxiety. Additionally, patients were encouraged to listen their surgeon's voice in audio intervention material. This made it possible for us to rely on the surgeon-patient relationship, which is essential for reducing perioperative anxiety. In this way, the method's calming effect may have been associated with the surgeon's words. Our research also has some limitations. First, cardiovascular parameters were not measured at baseline prior to group assignment. Consequently, it is unknown whether the groups had different HRs at the outset, despite the fact that the groups were randomly assigned, and no other differences were observed at the outset. In addition to the intervention condition, there was only one passive control condition in the research. This is referred to as a single-blind design, and it makes it difficult to rule out expectations and differentiate the effects of the intervention's many components, such as relaxation, information, and positive verbal suggestions, etc. The use of traditional self-reported surgical anxiety measures, including the Yale Preoperative Anxiety Scale,(26) the Amsterdam Preoperative Anxiety,(27) and Information Scale, and the STAI State Anxiety Subscale, was examined. However, it was determined that due to time constraints and the patients' poor vision, the patients would not be effective in this particular situation. Because social desirability effects are likely to happen, the phone administered STAI trait subscale and LVQoL tests should be interpreted with care.(28)

CONCLUSION

The study showed that there were significant effects of therapeutic advice and patient education in favour of intervention group on anxiety and satisfaction in patients having cataract surgery. This study showed that a combination of preoperative patient education, positive recommendations, and anxiety management approaches may make the postoperative visit less stressful and facilitate better communication between the patient and surgeon. However, the report has several limitations that need more investigation. More research needs to be done on how well each part works on its own, and more intervention presentations are needed to figure out how well combination therapy works for lowering anxiety. This study adds to the growing body of evidence that multi-part patient education programs may help reduce patients' anxiety before cataract surgery.

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