European Journal of Molecular & Clinical Medicine

ISSN 2515-8260 Volume 09, Issue 06, 2022

Original Research Article

Variations in physiological parameters related to surgeons' health during complicated cataract surgeries

[1]Dr. Venkatram Katti, [2]Dr. Shobha Goudar, [3]Dr. Rajashekar Dyaberi, [4]Dr. Vivekanand Jivangi
[5]Dr. Tasmia Samreen, [6]Dr. Shalini G, [7]Dr. Nazreen N

[1,2]Assistant Professor, Department of Ophthalmology, Karnataka Institute of Medical Sciences, Hubli, Karnataka, India
[3,4]Associate Professor, Department of Ophthalmology, Karnataka Institute of Medical Sciences, Hubli, Karnataka, India
[5,6,7]Junior Resident, Department of Ophthalmology, Karnataka Institute of Medical Sciences, Hubli, Karnataka, India

Corresponding Author:
Dr. Vivekanand Jivangi

Abstract

Purpose

- To identify the stress-related physiological parameters of ophthalmic surgeons during complicated cataract surgeries and compare the same factors with uncomplicated routine cataract surgery and study the variations between the two groups.

Method: Patients attending the Karnataka Institute of Medical Sciences ophthalmology OPD were considered for the study. The patients included in this study ranged between 45 and 80 years of age, they were grouped into two groups of 50 patients each and divided into complicated and uncomplicated cases. Group 1 included patients having cataracts corresponding to nuclear sclerosis ≤ Grade 4, posterior subcapsular cataract, and cataract with good pupillary dilatation (>7 mm) and no other ocular comorbidities. Group 2 included patients with mature, hypermature cataract, posterior polar cataract, traumatic cataract, cataract with poor pupillary dilatation (<5 mm), one-eyed patients, pseudo-exfoliative syndrome, patients with chronic or recurrent uveitis, floppy iris syndrome, and systemic comorbidities (cognitive disorder, Parkinson's disease, Alzheimer's disease, patients on tamsulosin). All patients underwent manual small incision cataract surgery with intraocular lens implantation. The outcomes measured were systolic blood pressure (SBP), diastolic blood pressure (DBP), mean arterial pressure (MAP), heart rate (HR), and saturation of peripheral oxygen (SpO2). The surgeons were required to answer a set of questions to assess any external factors adding to stress during surgeries.

Results: In this study, we noted that the mean systolic blood pressure (SBP) pre-surgery and post-surgery was 135.8 ±5.38mm Hg and 131.8 ± 4.85 mm Hg respectively in uncomplicated cases. The mean SBP pre-surgery and post-surgery in complicated cases was 141.64 ± 6.4 mm Hg and 138.12 ± 8.21mm Hg respectively in uncomplicated cases. These were statistically significant (p = <0.005). Mean Arterial Pressure (MAP) showed significant changes. It ranged between 100.63 ± 3.83mm Hg pre-surgery and 99.27 ± 2.84mm Hg post-surgery in the uncomplicated group. While it ranged between 104.71 ± 4.27mm Hg and 101.29 ± 4.52mm Hg pre and post-surgery in the complicated surgery. The heart rate (HR) showed significant variation post-surgery in both groups between 87 ±1.01 and 86.16 ± 0.55 in group 1 and 2 respectively. The oxygen saturation (SPO_2) varied between 97.98 ± 0.14% pre and post-surgery in group 1. In group 2 it varied between 97.5 ± 0.51% post-surgery

ISSN 2515-8260 Volume 09, Issue 06, 2022

which was significant (<0.005). There was a significant change in post op DBP, MAP and heart rate in complicated groups compared to uncomplicated groups. In uncomplicated cases a decrease in the heart rate was noted but the same was significant after a complicated case. In order to identify other factors that lead to a decrease in heart rate a linear regression study was done by comparing it with PSAQ scores. Even in this measurement there was a significant reduction of heart rate in complicated cases and in those case with a PSAQ score of 3.

Conclusion: A surgeon being the most important factor for a successful surgery bears the pressures of imparting his best in each case. Physiological parameters such as heart rate, systolic and diastolic blood pressures, mean arterial pressures fluctuate with different levels of stress. This study helps to identify these variations while performing a complicated case compared to that of a routine case. As the differences in these vary significantly controlling these might help in the betterment of a surgeons' mental health which is directly proportional to a better visual outcomes in the patients. This study also enables a surgeon to undertake steps to overcome a chronic burnout in the form of meticulous planning of the cases, exercise and relaxation techniques.

Keywords: Physiological parameters, surgeons' health, complicated cataract surgeries

Introduction

Cataract is the main cause of treatable blindness in the world which adds on to a country's burden to manage these as the number of cases increase by the days passing. In such a setting, the regular surgeries were affected by the COVID-19 pandemic and this has added up to the increase in number of complicated cataract cases because the cataract gets more complicated as it advances. The complications that a cataract patient comes with adds on to the stress of the operating surgeon who has to bear the effect of it. A cataract surgery is a highly technical specialty that requires fine motor skills, precise microscopic control, excellent judgement by the surgeon, and the availability of highly refined instruments [1]. The ocular structures are delicate, minor trauma to the cornea or lens capsule can result in permanent vision loss due to corneal edema, cystoid macular edema, retained lens fragments, and retinal detachment. The patients have high expectations and the margin for procedural error is low, which means that cataract surgery can be stressful for even skilled and experienced surgeons. Successful surgery requires possession of not only superior surgical skills but also the astuteness to make important decisions while remaining calm in the face of challenging circumstances [2]. In the modern era of surgical advancements, favourable outcome is expected by the patient even when the case is determined to be intricate since its commencement or when an unexpected complication occurs during the surgery [3]. The ever-increasing demands of an excellent surgery both in terms of number and correctness are likely to have an adverse effect on the surgeons' health and the same may manifest in the form of fluctuations in their physiological parameters [4]. These may alter cognitive function and systemic health. Very few studies regarding stress among ophthalmic surgeons have been published in the literature. In this study, we will be concentrating on the impact of stress and anxiety on physiological parameters of the ophthalmic surgeon while operating complicated cases compared with normal cases. The results might help in taking steps to monitor the stress levels and control them in order to prevent burnout.

ISSN 2515-8260 Volume 09, Issue 06, 2022

Methods

Study Design and Subjects

This cross-sectional observational study included 100 eyes of patients with cataracts who presented to the Department of Ophthalmology at Karnataka Institute of Medical Sciences between 1st January 2022 to 31st May 2022. The study adhered to the tenets of the Declaration of Helsinki and was approved by the institutional review board. Ethics committee clearance was obtained from our Institute. Written informed consent was taken from all patients involved in this study, who were planned for Manual Small Incision Cataract Surgery with intraocular lens (IOL) implantation after thorough preoperative evaluation. Patients were divided into two groups: group 1 consisting of complicated cataracts and group 2 consisting of uncomplicated cataracts. All patients were operated by the same experienced surgeon, whose baseline physiological parameters, like blood pressure, pulse rate, and oxygen saturations were monitored pre and post-surgery. The surgical experience of the surgeon was more than 12 years in cataract surgery and anterior segment. The questionnaire was filled daily before beginning the surgeries, and a single case was done on each day, a complicated case on 1 day followed by an uncomplicated case on the next. This was done to identify the individual factors of personal stress because it can also affect the physiological parameters of the surgeon.

Inclusion criteria

The patients included in this study ranged between 45 and 80 years of age. Group 1 included patients having cataracts corresponding to nuclear sclerosis ≤ Grade 4, posterior subcapsular cataract, and cataract with good pupillary dilatation (>7 mm) and no other ocular comorbidities.
Group 2 included patients with mature, hypermature cataract, posterior polar cataract, traumatic cataract, cataract with poor pupillary dilatation (<5 mm), one-eyed patients, pseudo-exfoliative syndrome, patients with chronic or recurrent uveitis, floppy iris syndrome, and systemic comorbidities (cognitive disorder, Parkinson's disease, Alzheimer's disease, patients on tamsulosin).

Exclusion criteria

Patients who were not willing to give consent for surgery and those with unexpected intraoperative complications were excluded.

The following parameters of all the patients were documented:
- Best-corrected visual acuity (BCVA).
- Grade and type of cataract as per LOC III (Lens Opacities Classification System III) grading.
- Associated ocular complications and systemic comorbidities.
- Pupillary dilatation.

The surgeon's parameters, namely,
- Blood pressure (systolic and diastolic).
- Pulse rate.
- Oxygen saturation levels were recorded at the beginning (30 min prior).

The blood pressure was measured using an automated blood pressure monitor. The mean

ISSN 2515-8260 Volume 09, Issue 06, 2022

arterial pressure (MAP) was taken as diastolic pressure +1/3 pulse pressure. The person

ISSN 2515-8260 Volume 09, Issue 06, 2022

measuring blood pressure, pulse rate and oxygen saturation was unaware of the groups.

Questionnaire [5]:
A questionnaire to assess the personal causes that can affect physiological parameters was filled by the surgeon 30 minutes prior to the first surgery of the day.
It included five questions:
1) Disturbed sleep or less sleep (<5 hours) prior to the surgery.
2) Any personal conflicts at home.
3) Whether had breakfast on the day of the surgery.
4) Ongoing menstrual cycle.
5) Any excessive workload.

All questions were scored as 0 or 1, and a score of ≥3 was taken as significant. The menstrual cycle was included in the questionnaire as it might affect the blood pressure.

Statistical analysis
Results

The study comprised of 100 patients with two groups of 50 patients each. Group 1 contained 26 (52%) female patients and 24 (48%) male patients. Group 2 contained 22 (44%) female patients and 28 (56%) male patients. The mean age ranged between 57.98 ± 8.23 in the uncomplicated group and between 60.54 ± 8.94 in the complicated group. No statistical significance was noted among the age and sex distribution of the patients between the two groups.

Table 1: Baseline data

		Uncomplicated (%)	Complicated (%)	Total (%)	Chi S-quare test
Patient Gender	Female	26 (52)	22 (44)	48 (48)	p=0.423
	Male	24 (48)	28 (56)	52 (52)	
	Total	50 (100)	50 (100)	100 (100)	
Surgeon PSAQ Score	1	23 (46)	20 (40)	43 (43)	p=0.513
	2	17 (34)	15 (30)	32 (32)	
	3	10 (20)	15 (30)	25 (25)	
	Total	50 (100)	50 (100)	100 (100)	

	Group	N	Mean	SD	Unpaired test
Patient Age	Uncomplicated	50	57.98	8.23	p=0.140
	Complicated	50	60.54	8.94	

The mean SBP pre and post-surgery was 135.8 ±5.38 and 131.8 ± 4.85 respectively in uncomplicated cases. The mean SBP pre and post-surgery in complicated cases was 141.64 ± 6.4 and 138.12 ± 8.21 respectively in uncomplicated cases. These were statistically significant (p = <0.005). the DBP measurements showed no significant changes in both the groups before and after the surgery. Mean Arterial Pressure showed significant changes. It ranged between 100.63 ± 3.83 pre-surgery and 99.27 ± 2.84 post surgery in the uncomplicated group. While it ranged between 104.71 ± 4.27 and 101.29 ± 4.52 pre and post-surgery in the complicated surgery. The heart rate showed significant variation post-surgery in both groups between 87 ±1.01 and 86.16 ± 0.55 in group 1 and 2 respectively. The oxygen saturation varied between 97.98 ± 0.14 pre and post-surgery in group 1. In group 2 it varied between 97.5 ± 0.51 post surgery which was significant (<0.005) but there was no marked

ISSN 2515-8260 Volume 09, Issue 06, 2022

variation before and after surgery.

ISSN 2515-8260 Volume 09, Issue 06, 2022

Table 2: Comparison of Mean values of Stress related parameters between Uncomplicated & Complicated case groups at pre-Op & Post Op

		Uncomplicated Mean (SD)	Complicated Mean (SD)	Unpaired t test
SBP	Pre	135.8 (5.38)	141.64 (6.4)	<0.005 (Sig.)
	Post	131.8 (4.85)	138.12 (8.21)	<0.005 (Sig.)
DBP	Pre	83.04 (3.82)	86.24 (4.29)	<0.005 (Sig.)
	Post	83 (3.03)	82.88 (3.03)	0.843
MAP	Pre	100.63 (3.83)	104.71 (4.27)	<0.005 (Sig.)
	Post	99.27 (2.84)	101.29 (4.52)	0.009 (Sig.)
HR	Pre	88.48 (1.69)	88 (0.81)	0.074
	Post	87 (1.01)	86.16 (0.55)	<0.005 (Sig.)
SPO_2	Pre	97.98 (0.14)	97.5 (0.51)	<0.005 (Sig.)
	Post	97.98 (0.14)	97.5 (0.51)	<0.005 (Sig.)

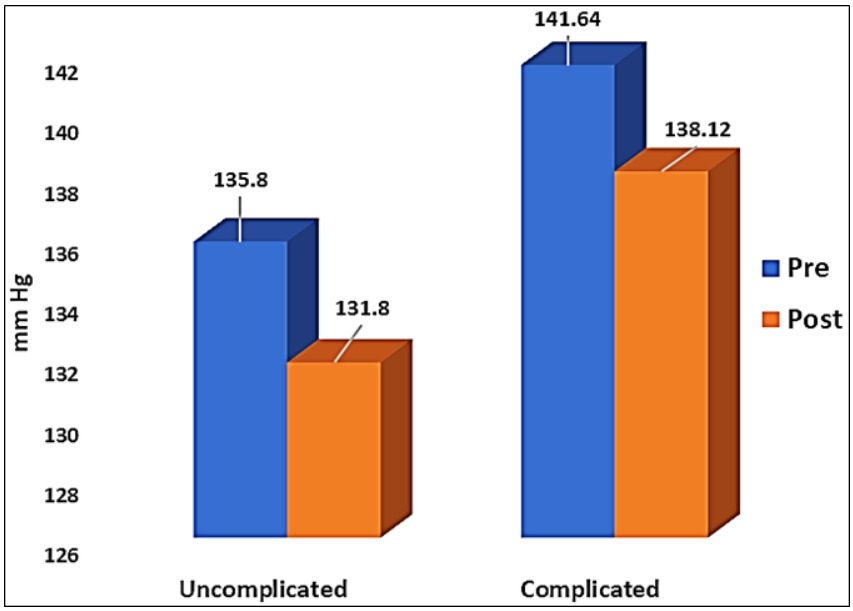
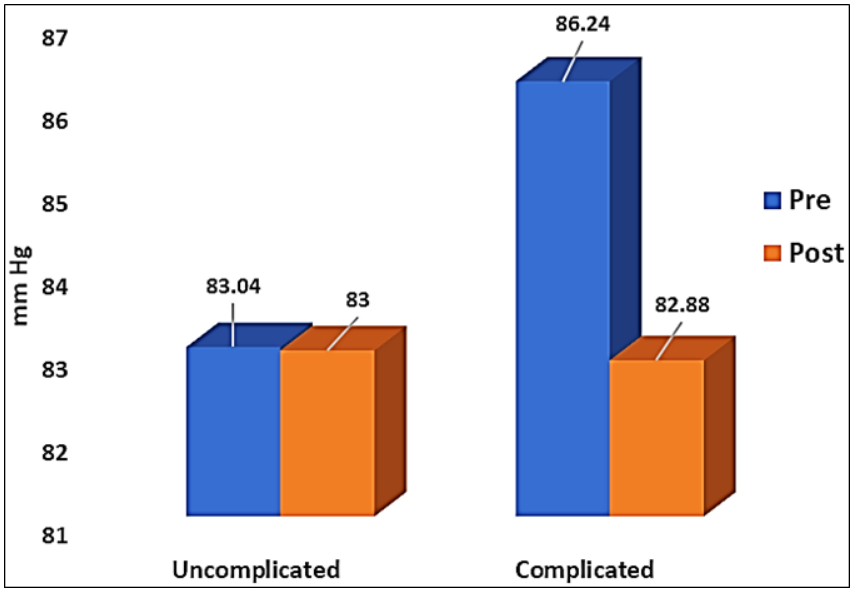


Fig 1: Pre & Post OP SBP in Two groups



ISSN 2515-8260 Volume 09, Issue 06, 2022

Fig 2: Pre & Post OP DBP in Two groups

ISSN 2515-8260 Volume 09, Issue 06, 2022

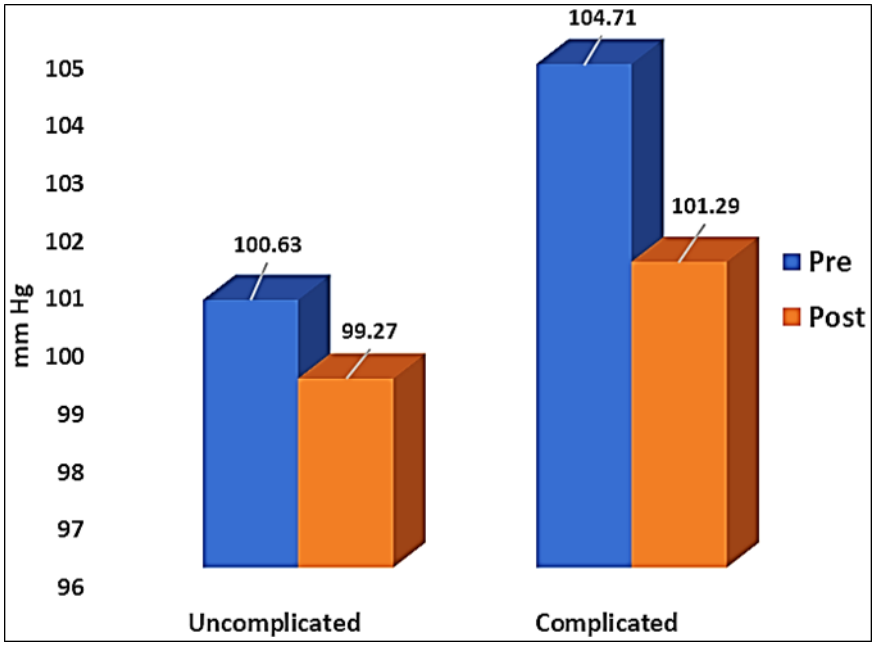


Fig 3: Pre & Post Op MAP in Two groups

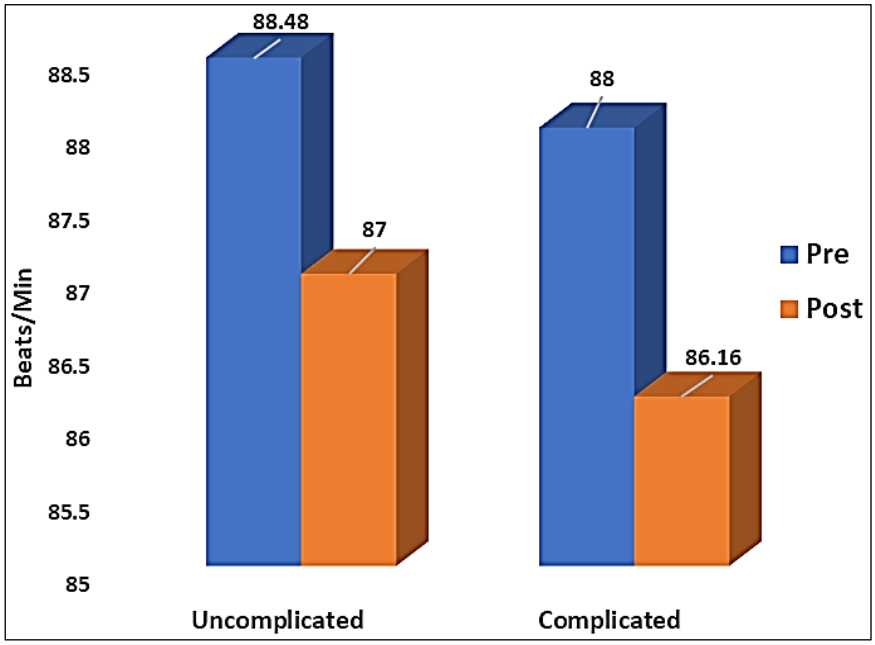


Fig 4: Pre & Post Op Heart Rate in Two groups

ISSN 2515-8260 Volume 09, Issue 06, 2022

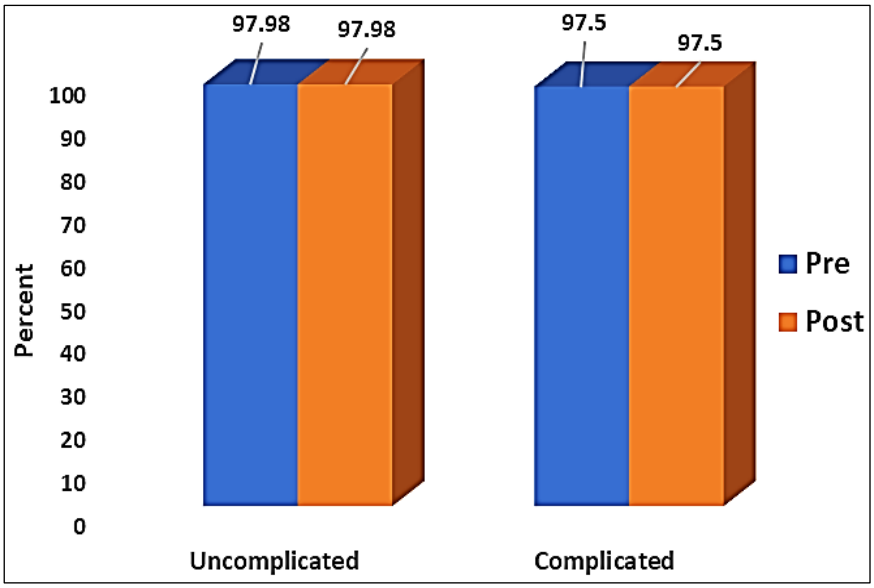


Fig 5: Pre & Post Op SPO_2 in Two groups

A mean pre and post change of 4 ± 4.93 in SBP is noted in group 1 and 3.52 ± 5.18 in group 2. A significant change in DBP was seen in complicated group (3.36 ± 3.91). Mean change in heart rate was 1.48 ± 0.89 in group 1 and 1.84 ± 0.55 in group 2.

Table 3: Comparison of Mean change (Pre-Op-Post-Op) in stress related parameters between Uncomplicated & Complicated cases groups

Change Parameters*	Uncomplicated Mean (SD)	Complicated Mean (SD)	Unpaired t test
Change in SBP	4 (4.93)	3.52 (5.18)	0.636
Change in DBP	0.04 (3.93)	3.36 (3.91)	<0.005
Change in MAP	1.36 (3.07)	3.41 (3.4)	0.002
Change in HR	1.48 (0.89)	1.84 (0.55)	0.016

*negative values indicate increased Post Op values compared to Pre-Op values.
positive values indicate decreased Post Op values compared to Pre-Op values.

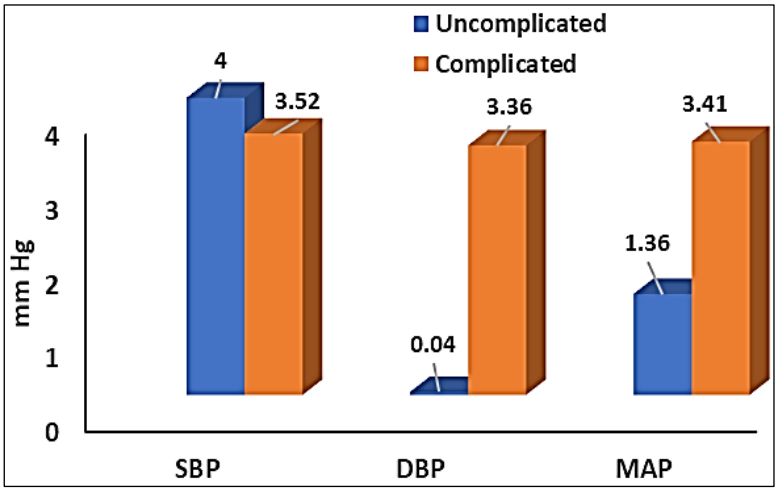


Fig 6: Mean Change in SBP, DBP, MAP (Difference between Pre-Op & Post Op)

ISSN 2515-8260 Volume 09, Issue 06, 2022

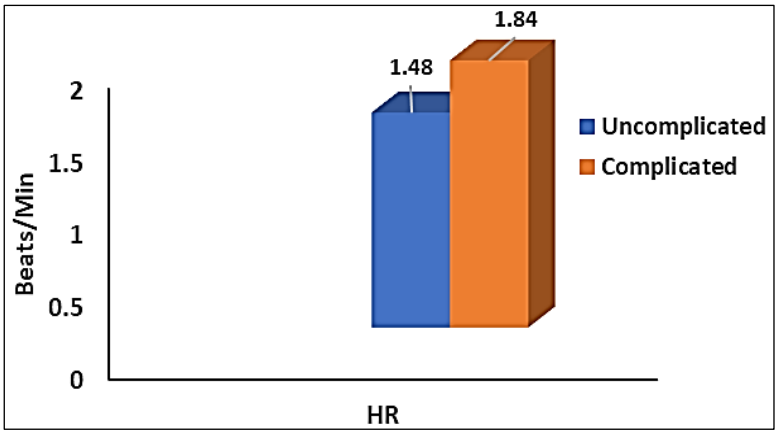


Fig 7: Mean Change in Heart rate (Difference between Pre-Op & Post Op)

Table 4: PASQ Score v/s BP & HR

Parameters	PASQ Score Mean (SD)			One Way ANOVA
	Score 1	Score 2	Score 3	
Change in SBP	3.86 (4.22)	3.69 (5.9)	3.68 (5.34)	p=0.985
Change in DBP	1.72 (3.94)	1.88 (3.55)	1.44 (5.52)	p=0.929
Change in MAP	2.43 (2.46)	2.48 (3.73)	2.19 (4.33)	p=0.943
Change in HR	1.91 (0.43)	1.69 (0.74)	1.2 (1)	p=0.001

Negative values indicate increased Post-Op values compared to Pre-Op values.
Positive values indicate decreased Post-Op values compared to Pre-Op values.

The change in the heart rate is less when the PSAQ score is 3 i.e., 1.2(p=0.001) than compared to when the PSAQ scores are 2 (1.91) and 1 (1.69). a score of 3 on a PSAQ questionnaire implies that more than two external factors might have an effect on the surgeons' stress levels. A post op decrease in the heart rate reflects a reduction of the physiological parameters of the surgeon and relaxation after a surgery. In uncomplicated cases a decrease in the heart rate was noted but the same was significant after a complicated case.

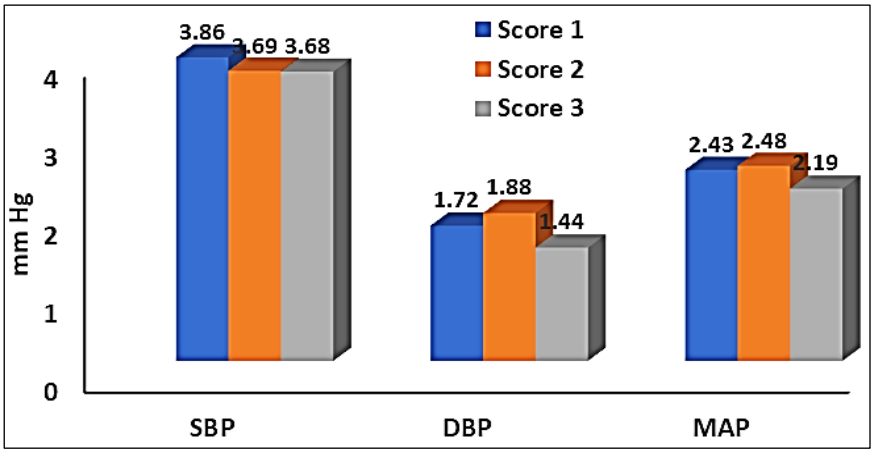


Fig 8: Mean Change in SBP, DBP, MAP in groups based on PASQ score (Difference between Pre-Op & Post Op)

ISSN 2515-8260 Volume 09, Issue 06, 2022

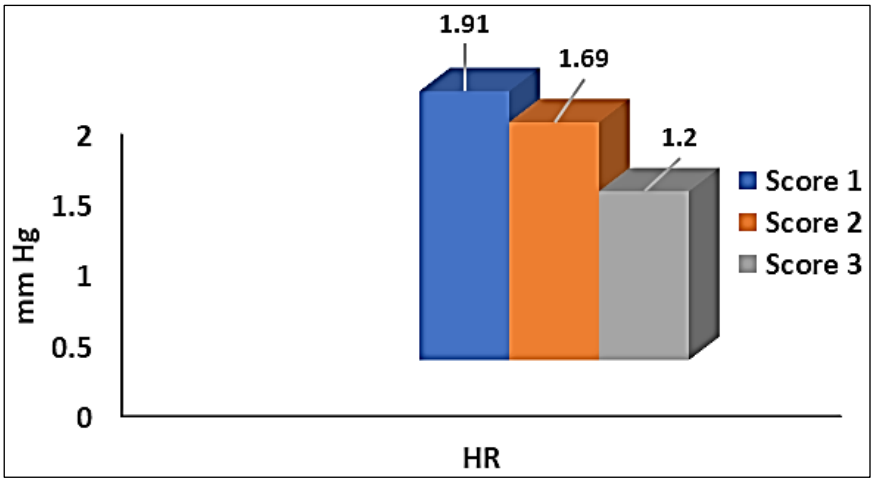


Fig 9: Mean Change in Heart in groups based on PASQ score (Difference between Pre-Op & Post-Op)

Table 5: Linear regression to identify Factors affecting the change in Heart rate

		B	Std. Error	P value	95% CI for B	
					Lower	Upper
(Constant)		1.708	0.121	<0.005	1.468	1.949
Group	Uncomplicated	Ref				
	Complicated	0.428	0.136	0.002 (Sig.)	0.157	0.698
PASQ Score	Score 1	Ref				
	Score 2	-0.221	0.158	0.165	-0.535	0.093
	Score 3	-0.765	0.171	<0.005 (Sig.)	-1.105	-0.425

In order to identify other factors that lead to a decrease in heart rate a linear regression study was done by comparing it with PSAQ scores. Even in this measurement there was a significant reduction of heart rate in complicated cases and in those case with a PSAQ score of 3.

Discussion

Stress is an inherent part of high-reliability and safety-critical professions. Operation theatre, with the diverse components of complex clinical challenges, patient variables, surgical skills, and limitations thereof; performance anxiety; intensive technical needs; interdependence on the individual skillsets of the team members; and administrative factors conglomerate a complex ecosystem that is so ripe for stress [6]. Surgeon, the so-called "captain of the ship", bears the brunt of physical and psychological stress in the setting of the operation theatre [7]. Some of the potential stressors for the surgeon include training level, the complexity of the procedure, patient expectations, intraoperative bleeding, problems with surgical equipment, time constraints, distractions in the operation theatre, and the presence of unacquainted observers [8].

Physiological effect of anxiety results from activity in the amygdala and the connected subcortical neural structures. These interactions result in stimulation of the autonomic nervous system, which results in increased HR, raised blood pressure, nausea, and sweating.

In this study, we noted that the mean SBP pre and post-surgery was 135.8 ±5.38 and 131.8 ± 4.85 respectively in uncomplicated cases. The mean SBP pre and post-surgery in complicated cases was 141.64 ± 6.4 and 138.12 ± 8.21 respectively in uncomplicated cases. These were statistically significant (p = <0.005). Mean Arterial Pressure showed significant changes. It

ISSN 2515-8260 Volume 09, Issue 06, 2022

ranged between 100.63 ± 3.83 pre-surgery and 99.27 ± 2.84 post surgery in the

uncomplicated group. While it ranged between 104.71 ± 4.27 and 101.29 ± 4.52 pre and post-surgery in the complicated surgery. The heart rate showed significant variation post-surgery in both groups between 87 ±1.01 and 86.16 ± 0.55 in group 1 and 2 respectively. The oxygen saturation varied between 97.98 ± 0.14 pre and post-surgery in group 1. In group 2 it varied between 97.5 ± 0.51 post surgery which was significant (<0.005).

There was a significant change in post op DBP, MAP and heart rate in complicated groups compared to uncomplicated groups.

The surgeons were required to fill a questionnaire before the surgery and those parameters are seen to have an impact on their objective parameters in the form of change in mean SBP, DBP and HR.

Stress being multifactorial and its impact diverse, its measures are many and can be subjective or objective. Subjective assessment of stress is typically performed using questionnaires (State-Trait Anxiety Inventory score and Visual Analog Anxiety Scale score) and interviews. Objective physiological measures of stress include heart rate and blood pressure (endogenous catecholamine release), heart rate variability (sympathovagal balance), skin conductance level (sympathetic activity), salivary and serum cortisol and serum prolactin level (neuroendocrine response) and the novel stress-related signals in the intraoperative electroencephalogram. Unobtrusive wearable devices capable of acquiring multiple bio-signals may make the objective measurement of stress simple and personalized [9, 10, 11].

A study by Alobid *et al*. has shown that stress causes variations in cardiovascular parameters while operating in the operation theater even when endocrine markers of stress are normal, emphasizing the importance of physiological parameters in acute stress [12].

A recent report by Viviers *et al*. found high levels of stress among Quebec ophthalmologists due to work overload, organizational deficiencies, and little professional recognition. Physicians subjected to high stress levels can develop psychiatric problems such as burnout and psychological distress. Burnout has been reported in 25.2% of ophthalmologists, 30-40% of general surgeons and 50-60% of orthopedic surgeons [13].

A study by Elkahlout and Ahmad has demonstrated that experience does help in controlling anxiety and hence the result shows less variation in physiological parameters [14].

Limitations of this study was that only a few physiological parameters were compared with a small sample of cases. The surgeon has operated one case per day whereas the stress levels might be higher when many cases had been done in a single day.

Conclusion

A surgeon being the most important factor for a successful surgery bears the pressures of imparting his best in each case. Physiological parameters such as heart rate, systolic and diastolic blood pressures, mean arterial pressures fluctuate with different levels of stress. This study helps to identify these variations while performing a complicated case compared to that of a routine case. As the differences in these vary significantly controlling these might help in the betterment of a surgeons' mental health which is directly proportional to a better visual outcomes in the patients. This study also enables a surgeon to undertake steps to overcome a chronic burnout in the form of meticulous planning of the cases, exercise and relaxation techniques.

References

1. Mansour A, Stewart MW, Charbaji AR, El Jawhari KM, El Zein L, Mansour MA, *et al*. Perceived surgeon stress during no-sedation topical phacoemulsification Clin Ophthalmol. 2020;14:2373-81.

ISSN 2515-8260 Volume 09, Issue 06, 2022

2. Kurmann A, Tschan F, Semmer NK, Seelandt J, Candinas D, Beldi G. Human factors in

the operating room: The surgeon's view Trends Anaesth Crit Care. 2012;2:224-7.
3. Parker SH, Yule S, Flin R, McKinley A. Surgeons' leadership in the operating room: An observational study Am J Surg. 2012;204:347-54.
4. Marrelli M, Gentile S, Palmieri F, Paduano F, Tatullo M. Correlation between Surgeon's experience, surgery complexity and the alteration of stress related physiological parameters PLoS One. 2014;9:e112-444.
5. Effect of complicated ocular surgery in stress-related parameters: A novel outlook into surgeon's health Jaya Kaushik, Anju Pannu, YVK Chaitanya, Ashok Kumar, Jitendra Kumar Singh Parihar1, Vaibhav K Jain 2, Piyush Chaturvedi 3, Lalita K Manumala, Ankita Singh, Divya Kochhar 10.4103/ijo.IJO_3517_20
6. Dedmon MM, O'Connell BP, Yawn RJ, *et al.* Measuring mental stress during otologic surgery using heart rate variability analysis. Otol Neurotol. 2019;40(4):529-534. Doi: 10.1097/MAO.0000000000002187
7. Stewart WC, Adams MP, Stewart JA, Nelson LA. Survey of practice-related stress among United States and European ophthalmologists. Graefes Arch Clin Exp Ophthalmol. 2011;249(9):1277-1280. Doi: 10.1007/s00417-011-1686-9.
8. Arora S, Sevdalis N, Nestel D, Woloshynowych M, Darzi A, Kneebone R. The impact of stress on surgical performance: A systematic review of the literature Surgery. 2010;147:318-30.
9. Ridout KK, Ridout SJ, Guille C, Mata DA, Akil H, Sen S. Physician-training stress and accelerated cellular aging. Biol Psychiatry. 2019;S0006-3223(19)L31329-0. Doi: 10.1016/j.biopsych.2019.04.030
10. Kwon JW, Lee SB, Sung S, Park Y, Ha JW, Kim G, *et al*. Which factors affect the stress of intraoperative orthopedic surgeons by using electroencephalography signals and heart rate variability? Sensors. 2021;21:40-16.
11. Jia NZ, Mejorado D, Poullados S, Bae H, Traverso G, Dias R, *et al*. Design of a wearable system to capture physiological data to monitor surgeons' stress during surgery, 2020 42nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). 2020;4539:42.
12. Alobid I, De Pablo J, Mullol J, Parramon G, Carrasco J, Armario A, *et al*. Increased cardiovascular and anxiety outcomes but not endocrine biomarkers of stress during performance of endoscopic sinus surgery: A pilot study among novice surgeons Arch Otolaryngol Head Neck Surg. 2011;137:487-92.
13. Viviers S, Lachance L, Maranda MF, Ménard C. Burnout, psychological distress and overwork: the case of quebec's ophthalmologists. Can J Ophthalmol. 2008;43(5):535-546. Doi: 10.3129/i08-132
14. Elkahlout GR, Ahmad OA. The effect of some sociodemographic factors on job stress level in nursing work. Umm Alqura Univ J. 2003;15:31-53.
15. Parker SH, Yule S, Flin R, McKinley A. Surgeons' leadership in the operating room: An observational study. Am J Surg. 2012;204:347-54.
16. Marrelli M, Gentile S, Palmieri F, Paduano F, Tatullo M. Correlation between Surgeon's experience, surgery complexity and the alteration of stress related physiological parameters. PLoS One. 2014;9:e112-444.
17. SOS = Save our surgeons (from succumbing to stress)! Honavar, Santosh Indian Journal of Ophthalmology: September. 2021;69(9):2245-2246. Doi: 10.4103/ijo.IJO_2164_21.