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EXPLORING THE BEHAVIORAL IMPACT OF SURGICAL INCIDENTS ON OPERATING ROOM STAFF

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Abstract

This study assessed the impact of disruptive behavior on operating room staff. A descriptive quantitative study was conducted among 385 participants using a structured questionnaire. Results showed that disruptive behavior was commonly experienced and was associated with increased stress, reduced confidence, and behavioral changes. A significant positive correlation was found between exposure to disruptive behavior and negative staff responses.

Methodology: A descriptive quantitative study was conducted among 385 operating room staff from public and private hospitals to examine the behavioral impact of surgical incidents and disruptive behavior. Data were collected using a structured questionnaire assessing demographics, exposure to disruptive behavior, and staff responses. Statistical analysis was performed using SPSS, applying descriptive statistics, Chi-square test, and Spearman's rho correlation with a significance level of $p \leq 0.05$.

Results: The results showed that operating room staff commonly experienced disruptive behavior. A significant positive correlation was found between exposure to disruptive behavior and negative behavioral responses ($r = 0.339$, $p < 0.05$), indicating increased stress and reduced confidence with higher exposure. No significant association was observed between professional role and exposure to disruptive behavior. Conclusion: Disruptive behavior in the operating room was found to have a negative impact on healthcare staff's emotional, cognitive, and behavioral responses. Even infrequent exposure triggered unfavorable reactions, while no major differences were observed across professional groups. The findings highlight the need for organizational support, clear communication, and strategies to reduce disruptive behavior to ensure staff well-being and patient safety.

INTRODUCTION

The operating room is one of the most dangerous and stressful places in the medical field. It needs great attention to detail, perfect technical execution, and good interdisciplinary cooperation. The surgical errors, whether they be near misses, adverse occurrences, equipment breakdowns, or unanticipated intraoperative complications, create great difficulties not only for the patient outcomes but also for everyone involved in the surgery or the observers. The operating room has always been considered a place where human factors play a major role owing to its high cognitive load, complex procedures, and quick decision-making never-

ending requirements. Human misses in the case of anesthesia have often resulted from the delicate balance between human performance and system weaknesses, as Cooper et al. [1] proved in their classic work. Nevertheless, although the safety research has progressed, the psychological and behavioral impacts of the accidents in the operating room have not been well studied. Moreover, the emotions may have a direct effect on teamwork, performance, and communication.

The psychological burden that operating room personnel go through after being part of surgical mistakes is becoming more visible, thanks to the recognition of the medical staffs as "second victims." The pioneering article by Wu [2] highlighted that doctors and nurses usually go through these feelings of guilt, shame, anxiety, and self-doubt without enough support from the institution. Besides, even if the mistake occurred due to system problems, the surgical team may still consider themselves partly responsible for the patient's outcome in that high-pressure situation; hence their emotional reactions would be more intense. Emotional distress can influence clinicians' self-image, interaction with peers, and participation in surgeries, and this distress may either come on suddenly or develop slowly over time. The need to investigate the responses of operating room staff to surgical events, which are still a major but under-researched area of patient safety, as well as the clinical consequences of surgery, is accentuated by the hidden emotional impact of such incidents.

In surgical environments the surgeons are mostly at the top of the decision-making hierarchy that is usually composed of different levels of staff. Even though this hierarchy is quite helpful in keeping the workflow organized, it may also add to the emotional stress during and after surgical procedures. Leape's historical research [3] clarified how blame and fear have been the main cultural factors that have shaped the reactions of the therapists to mistakes and as a result, these reactions were not honest and the emotional barriers were not removed. Such cultural expectations may lead in the operating room to the situation where the staff members do not reveal their true feelings or do not seek help, therefore the emotional discomfort gets internalized and the staff becomes less openly involved with the patients. The fear of not performing up to the high standards may especially be the case among surgeons who perceive it as a personal failure. Clinicians have this dilemma of either becoming defensive or isolating themselves from interaction with the team. Thus, the internal pressures that lead to these behavioral changes can cause the incident to have a larger negative effect on safety and teamwork than the incident itself.

Surgical mistakes are capable of drastically affecting the doctors' mental and behavioral states in such a way that they are not able to perform their duties properly. One of the main reasons for this is that the stress has caused cognitive overload which in turn has affected the doctors' working memory, attention, accuracy in decision-making, and even their physical coordination—skills that are absolutely necessary in the theatre. In their research on critical incidents during anesthesia, Weinger and Slagle suggested that acute stress could rather easily cloud a clinician's mind and thus lead to errors in performance [4]. The reactions of the staff may differ greatly, as one or more may become more alert and attentive to the incident in question while others may take their time or get mentally stuck before making a decision. The doctors' mental and physical changes act out the patients' condition as well as the medical staff's reaction to them and therefore it is important to know how emotional stress from incidents turns into observable performance results and the involved mechanism of the brain perceiving a threat.

The emotional reactions of medical professionals to bad situations are able to alter greatly the communication, which, anyway, is the main factor of safe surgical care. Safety culture studies identify among the major reasons of surgical mishaps nothing but poor communication. According to Sexton and his collaborators [5] stress, fear of being judged, and hierarchical pressures are some of the factors that tend to silence employees. Usually, after an incident, medical staff may not assert themselves as much,

may be more cautious in their communication, or may even decide not to challenge a decision at all. Such behavior changes lead to the situation being poorly perceived by the team and hinder the flow of information, thus increasing the likelihood of errors occurring again. Psychological safety—a prerequisite for successful communication—is often put at risk during emotionally charged events, which additionally complicates this relationship.

Not only can an incident lead to mistrust among employees, but it can also cause discomfort among staff. This can lead to cliques, lack of communication and ultimately a decrease in the quality of work. Trust and perceived competence are factors that make the operating room environment very precarious especially when surgical errors occur. According to the psychological safety research conducted by Edmondson **[6]**, a team cannot be productive and hence learning is stalled when members are hesitating to express themselves, fearing the judgment or embarrassment that may follow. So post-event, the staff might question their capabilities or that of their colleagues and this might lead to disputes, less cooperation, or people shunning each other. Interpersonal disturbances may last long after the incident and continue to unnoticeably change the way the team interacts and the manner of communication. Thus, it takes just one incident with a negative outcome to transform the interpersonal atmosphere of the operating theater and eventually affect the communication of the team members throughout the following procedures.

The ways that people handle the situation after surgery vary a lot from one person to another and are influenced by many factors such as their personality, past experiences, workplace culture, and the availability of support. Therapists sometimes resort to good coping mechanisms, such as reflecting on the event, obtaining assistance from coworkers, or participating in debriefing sessions. On the contrary, maladaptive coping is still common and it comprises avoidance, denial, repression of feelings, and overcompensation. Numerous studies on burnout show that such maladaptive coping is associated with emotional exhaustion, withdrawal, and increased error rates.

There were very strong correlations between the symptoms of burnout and self-reported medical errors in Shanafelt's landmark study on physician burnout **[7]**, which showed that the inability to manage one's emotions can lead to a cycle of behaviors that are harmful to one's performance and the safety of others.

Professional identity plays a major role in determining how a person reacts to incidents during surgery. Many operating room workers, particularly surgeons and anesthesiologists, have acculturated these strong professional values centering on precision, quality and patient advocacy. Such high standards might lead to the disruption of one's identity and self-blame in case of an adverse event. Scott et al.**[8]** report that second victims usually consider themselves as incompetent and switch their self-image after events. Among the others, that may take a form of refusal to deal with difficult cases, increased need for reassurance, or quitting the role of a leader. Ultimately, constant attendance at accidents might bring down the doctor's confidence, which may then affect their professional activity for a long time.The behavior of operating room staff after surgical events is largely dictated by the organizational culture. Reason's human error model **[9]** holds that supportive environments can mitigate harmful self-blame and promote learning by reinterpreting error as the product of system weaknesses rather than individual shortcomings. Organizations that prioritize openness and a just culture make room for discussion and introspection, thus the colleagues' behavior is better conditioned. The opposite is the case with punitive regulations, which incite defensive, humiliating, and secretive behaviors that can hinder collaboration and growth within the team. When companies ignore the emotional aspects of surgical accidents, the medical staff may develop self-defense coping mechanisms at the cost of teamwork, thus putting both patient safety and team performance at risk. Structured support systems such as peer support programs and critical incident stress

debriefings are examples of the types of support that are necessary for the reduction of the behavioral impact of surgical mishaps.. Clinicians' coping skills and emotional discomfort have been shown to be improved by programs like RISE and for YOU **[10].**The disparity in professional experience greatly affects the behavior of operating room personnel in case of surgical errors. Young doctors may not have very strong mechanisms for dealing with stress because they are usually not in very high-stress situations. Hu et al. **[11]** reported that in troubled conditions, trainees and junior doctors are more likely to show behavioral problems like being reluctant, unengaged or needing a lot of supervision, and they also suffer from severe emotional distress most of the time after such events. In contrast, a situation contrary to the principle of the doctor's professional conduct, a doctor may still show signs of disruption even if he is relying on his hard-earned endurance. These differences make it clear that there is a need for tailored support that considers the specific weaknesses of workers at varying career stages.The actions of operating room personnel in relation to surgical events are heavily influenced by leaders' behavior. Leaders who demonstrate empathy, accountability, and transparency, make the clinicians feel safe and free to talk about their mistakes and share their feelings. Supportive leadership reduces the chance of maladaptive behavior reactions such as avoidance, blame-shifting, or withdrawal. On the contrary, anxiousness is increased, open communication is discouraged, and defensive actions are fostered by authoritarian or punishing leadership. According to studies on leadership in clinical crises, emotionally intelligent leadership aids the team to function smoothly, communicate again, and reduce behavior disruptions after the occurrence of adverse events **[12]**.

Results:

Frequency Analysis

Most of the study's participants were in the young and middle-age groups. Men and women were both part of the study. The age, sex, education, and medical history of the participants were all factors that contributed to the reliability and comprehensiveness of the results

FREQUENCY TABLES

Table 1. Frequency Analysis for the variable Age

Age		
Variable	Frequency	Percent
<30	111	28.8
>60	4	1.0
30–40	181	47.0
40–50	73	19.0
50–60	16	4.2
Total	385	100.0

The sample's age distribution reveals that the largest portion of the population falls within the 30-40 age group, which constitutes 47% of the total. 28.8% of the respondents are less than 30 years old, and 19% are in the 40-50 age group, which is significantly smaller. The population aged between 50 and 60 is 4.2%, and the smallest group consists of seniors, who are only 1% of the total. Overall situation, the sample consists of 385 individuals, with most of them being less than 50 years of age.

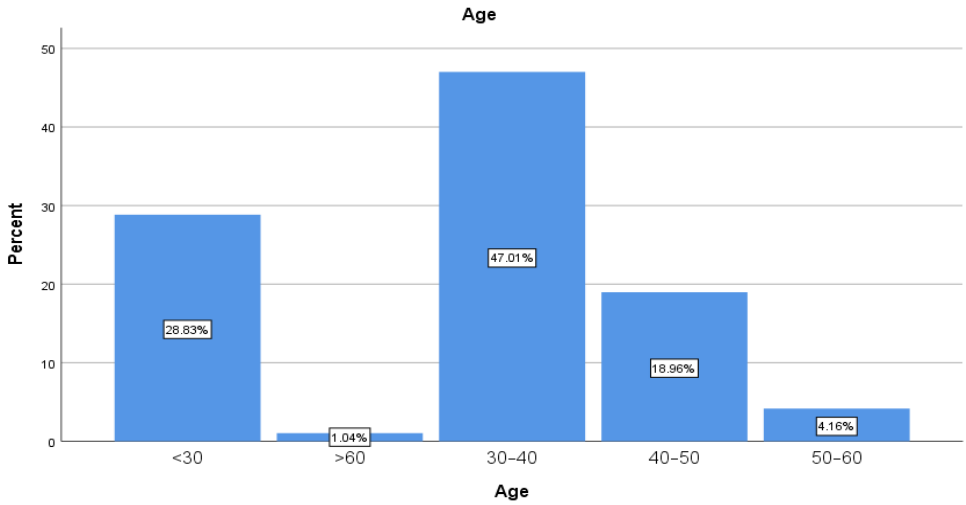

Figure 1: Varible of the Age

Table 2. Frequency Analysis for the variable Gender

Gender		
Variable	Frequency	Percent
Female	243	63.1
Male	142	36.9
Total	385	100.0

The sample population's gender distribution indicates that females constitute 63.1% of the total number while males account for 36.9%. The entire sample numbers 385 people, with the majority being females.

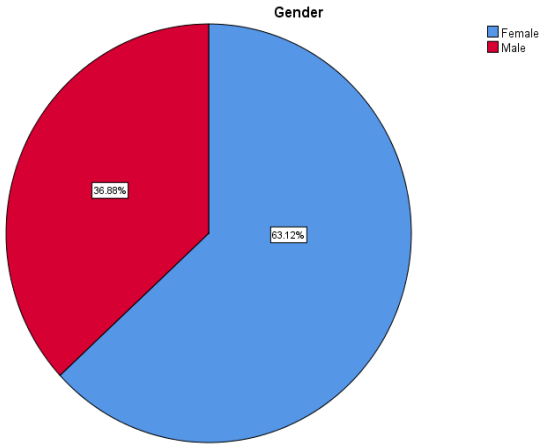

Figure 2: Varible of the Gender

Table 3. . Frequency Analysis for the variable Medical Profession

Medical Profession		
Variable	Frequency	Percent
Anesthesiologist	24	6.2
Nurse	175	45.5
Surgeon	84	21.8
Technician	11	2.9
Technologist	91	23.6
Total	385	100.0

The sample distribution of medical professions reveals that nurses form the biggest group, whose percentage amounts to 45.5% of the total. The next largest group is technologists, who represent 23.6% of the sample, while surgeons are the third largest with 21.8% of the total. The percentages of anesthesiologists and technicians are 6.2% and 2.9%, respectively, with the latter being the smallest group. The complete sample includes 385 people.

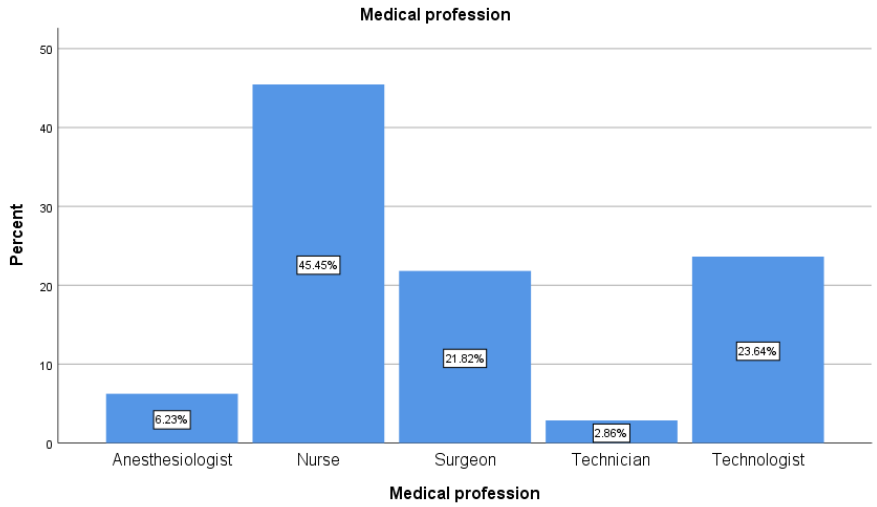

Figure 3: Varible of the Medical Profession

Table 4. Frequency Analysis for the variable Management Position

Management Position		
Variable	Frequency	Percent
No	127	33.0
Yes	258	67.0
Total	385	100.0

When considering the distribution of management roles, 67% of participants are in a management position, and 33% are not. The overall number of samples is 385 persons, from which the greater part is in management positions.

Figure 4: Varible of the Management Position

Table 5. Frequency Analysis for the variable Current Position

Current position		
Variable	Frequency	Percent
Resident	68	17.7
Staff	244	63.4
Student	73	19.0
Total	385	100.0

According to the existing distribution of positions, it is indicated that the biggest group consists of staff members taking up 63.4% of the total sample. The percentage of residents is 17.7%, while that of students is 19%. The total number of individuals amounts to 385.

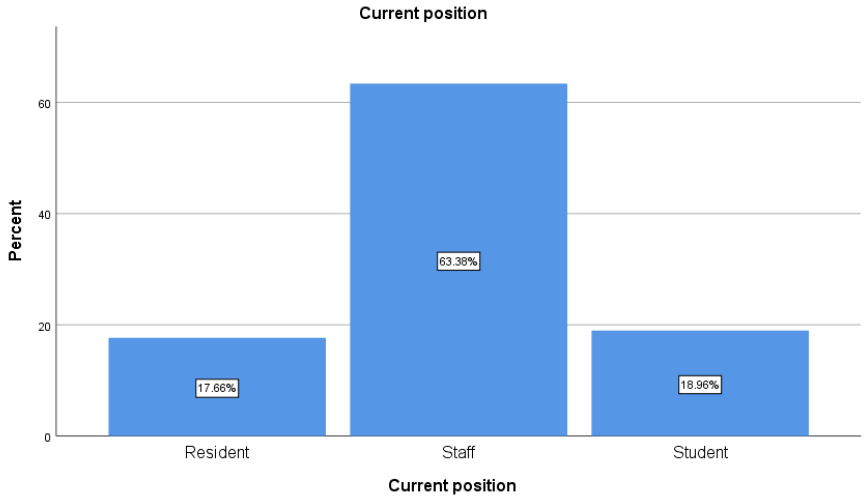

Figure 5: Varible of the Current Position

Table 6. Frequency Analysis for the variable Experience

Experience		
Variable	Frequency	Percent
<2	210	54.5
11–20	8	2.1
2–5	106	27.5
6–10	38	9.9
Not completed	23	6.0
Total	385	100.0

According to the experience distribution, the greatest number of people, 54.5%, possess less than 2 years of experience. A fairly large amount, 27.5%, are in the 2 to 5 years of experience bracket, while 9.9% are in the 6 to 10 years category. Merely 2.1% belong to the 11 to 20 years group and 6% are still to complete their experience. The overall sample includes 385 persons.

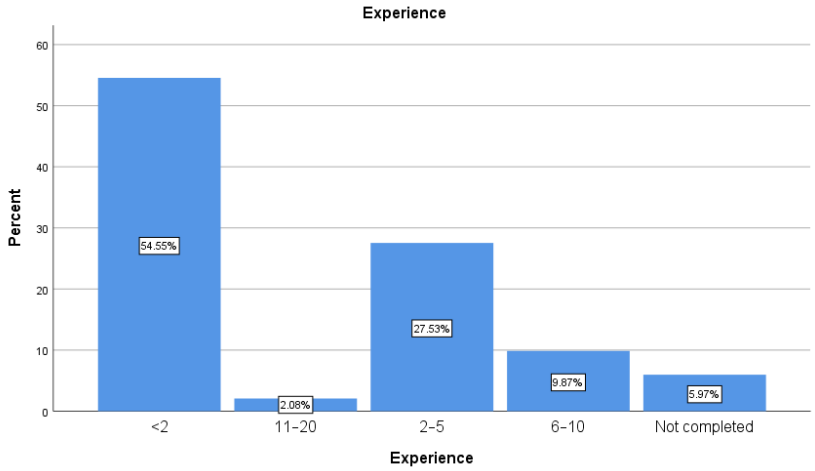

Figure 6: Varible of the Experience

Table 7. Frequency Analysis for the variable Hospital

Hospital		
Variable	Frequency	Percent
Private	226	58.7
Public	159	41.3
Total	385	100.0

The above table provides information about the hospital categories influencing the overall population of patients for the study. From the table, it is clear that the majority of the patients, 58.7%, received treatment in private hospitals, whereas only 41.3% were treated in public hospitals. In total, the researchers surveyed 385 patients, including those from both types of hospitals.

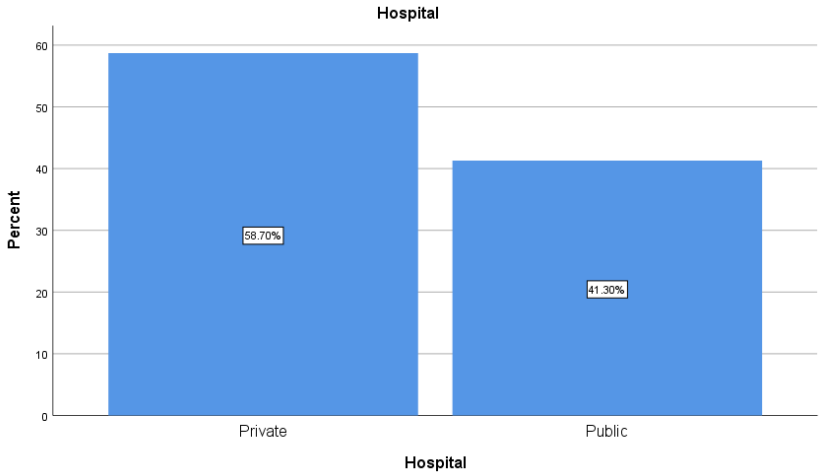

Figure 7: Varible of the Hospital

Table 8. Frequency Analysis for the variable Exposure to Disruptive Behavior Score

Exposure to Disruptive Behavior Score		
Variable	Frequency	Percent
Never	25	6.5
Few times a year	37	9.6
Every few months	63	16.4
Every month	83	21.6
Every week	71	18.4
Every few days	69	17.9
At least 1/day	37	9.6
Total	385	100.0

The percentage of people who are exposed to disruptive behavior reveals that 21.6% are subjected to it every month which is the highest frequency. The same share, 18.4%, experience it every week, and 17.9% get in touch with disruptive behavior every couple of days.Exposure every few months is reported by 16.4%, and 9.6% experience it a few times a year or at least once a day. The smallest group, 6.5%, report never experiencing disruptive behavior. The total sample consists of 385 individuals.

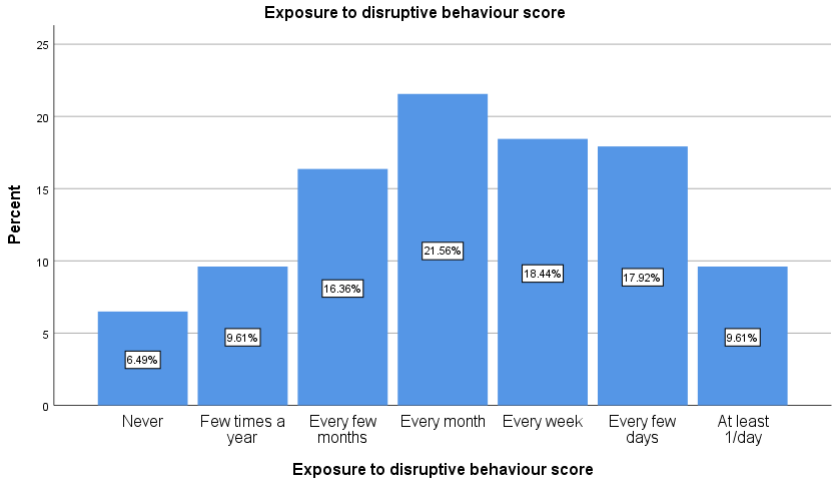

Figure 8: Varible of the Exposure to disruptive behavior score

Table 9. Frequency Analysis for the variable Response to Disruptive Behavior Score

Response to Disruptive Behavior Score		
Variable	Frequency	Percent
Never	18	4.7
Few times a year	45	11.7
Every few months	69	17.9
Every month	69	17.9
Every week	76	19.7
Every few days	68	17.7
At least 1/day	40	10.4
Total	385	100.0

The response to disruptive behavior distribution shows that 19.7% of individuals respond to disruptive behavior every week, making it the most common frequency. A similar portion, 17.9%, respond every few months and every month. Additionally, 17.7% report responding every few days, while 11.7% respond a few times a year. 10.4% of individuals respond at least once a day, and the smallest group, 4.7%, never respond to disruptive behavior. The total sample size is 385 individuals.

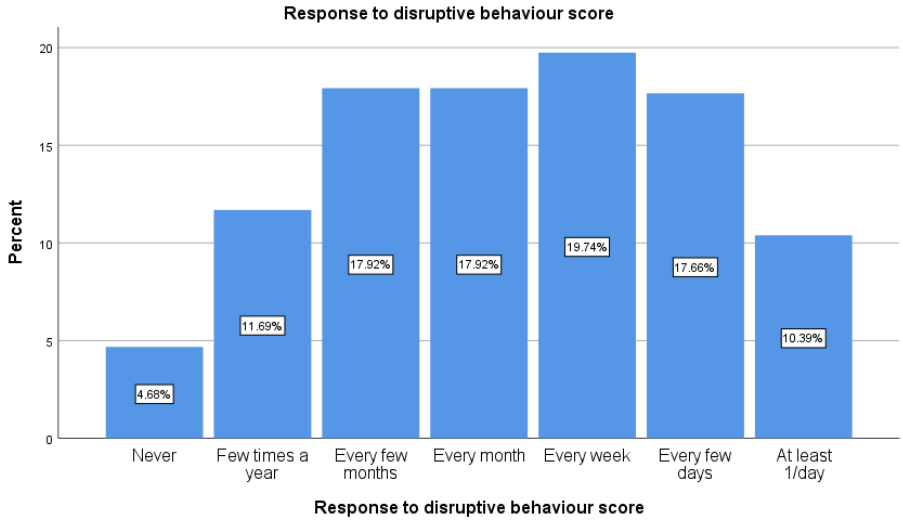

Figure 9: Varible of the Response to disruptive score

Analytical Calculations

To Explore how surgical incidents affect the behavior responses of operating room staff

Hypotheses

H_0: Operating room personnel stress levels are not significantly correlated with the severity of surgical events.

H_1: Stress levels among operating room personnel are significantly correlated with the severity of surgical events.

Level of Significance 0.05

Test Statistics

Spearmen's rho Coorelation analysis is applied. because:

1. **Categorical Data:** Both variables (surgical incidents and behavioral changes) are categorical.
2. **Testing Association** It helps determine whether there is a significant association between impact of surgical incidents on operating room staff.

Results

Table 10: Mean,Median,Mode,Std.Deviation,Variance

Statistics of Mode_ EDB	
N	384
Mean	2.49
Median	2.00
Mode	2
Std. Deviation	.891
Variance	.794

The statistics for the Mode_EBD variable are based on a sample size of 384 participants. The mean score is 2.49, with a median of 2.00 and a mode of 2, indicating that the most frequent value is 2. The standard deviation is 0.891, suggesting moderate variability around the mean, and the variance is 0.794, reflecting the spread of the data.

MODE of Exposure of Disruptive Behavior

Table 11: MODE of Exposure of Disruptive Behavior

Mode_ EDB		
	Frequency	Percent
Never: No occurrence	31	8.1
Rarely: A few times a year or less	197	51.3
Occasionally: Every few months or monthly.	103	26.8
Frequently: Every week or every few days.	43	11.2
Almost Always: At least once a day or more frequently.	10	2.6
Total	384	100.0

The Mode_EBD variable had the following frequency distribution: thirty-one subjects (8.1%) said "Never: No occurrence," one hundred ninety-seven subjects (51.3%) said "Rarely: A few times a year or less," one hundred three subjects (26.8%) said "Occasionally: Every few months or monthly," forty-three subjects (11.2%) said "Frequently: Every week or every few days," and ten subjects (2.6%) said "Almost always: At least once a day or more frequently." The total sample size consisted of 384 subjects, hence, the total amounts to 100% of the sample.

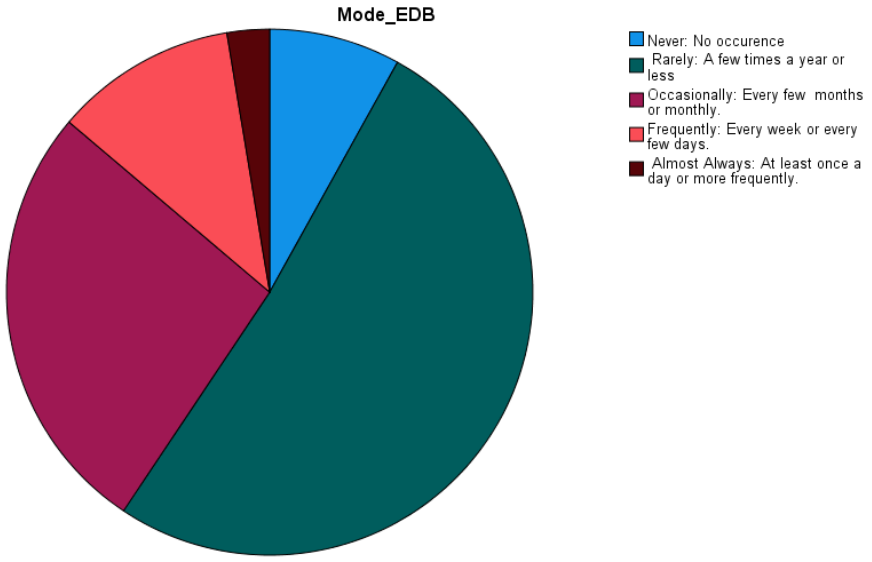

Fig no 10: MODE of EDB

Crosstabulation between profession and Mode_EDB

Table 12: Crosstabulation between profession and Mode_EDB

Profession * Mode_ EDB Crosstabulation							
		Mode_ EDB					Total
		Never: No occurrence	Rarely: A few times a year or less	Occasionally: Every few months or monthly.	Frequently: Every week or every few days.	Almost Always: At least once a day or more frequently.	
Profession	Surgeon	5	43	23	11	2	84
	Nurse	10	97	46	17	5	175
	Technologist	12	40	27	10	1	90
	Anesthesiologist	3	10	6	3	2	24
	Technician	1	7	1	2	0	11
Total		31	197	103	43	10	384

The The crosstabulation of profession and Mode_EBD reveals the different professional categories of respondents and the number of each that chose a particular response. For instance, the surgeons comprised of 5 who indicated "Never: No occurrence," 43 who indicated "Rarely: A few times a year or less," 23 who indicated "Occasionally: Every few months or monthly," 11 who indicated "Frequently: Every week or every few days," and 2 who indicated "Almost Always: At least once a day or more frequently," which amounts to a total of 84 surgeons. The distribution among nurses shows that there were 10 indicating "Never," 97 "Rarely," 46 "Occasionally," 17 "Frequently," and 5 "Almost Always," which makes it a total of 175 nurses. The numbers for technologists were 12 for "Never," 40 for "Rarely," 27 for "Occasionally," 10 for "Frequently," and 1 for "Almost Always," which totals to 90 technologists. The distribution among anesthesiologists is as follows; 3 indicated "Never," 10 "Rarely," 6 "Occasionally," 3 "Frequently," and 2 "Almost Always," which makes a total of 24 anesthesiologists. The case of technicians depicts 1 who indicated "Never," 7 who indicated "Rarely," 1 who indicated "Occasionally," 2 who indicated "Frequently," and none for "Almost Always," which totals to 11 technicians. In general, the number of participants in this survey amounted to 384; among them, only 31 people indicated "Never," 197 "Rarely," 103 "Occasionally," 43 "Frequently," and 10 "Almost Always."

Chi-Square Test Results:

Table 13: Chi-Square Test

Chi-Square Tests			
	Value	Df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.480	16	.563
Likelihood Ratio	13.837	16	.611
Linear-by-Linear Association	.266	1	.606
N of Valid Cases	384		

The Pearson Chi-Square statistic was 14.480 with 16 degrees of freedom along with an asymptotic significance (2-sided) of 0.563, which means there was no significant association between the examined variables. The Likelihood Ratio value was 13.837 with 16 degrees of freedom and an asymptotic significance of 0.611, which also indicated no significant relationship. The Linear-by-Linear Association statistic was 0.266 with 1 degree of freedom and an asymptotic significance of 0.606, thus providing further evidence against the presence of a significant association. The assessment was conducted on a sample of 384 valid records.

Spearman's rho Results:

Table 14: Correlations by Spearman's rho

Correlations				
			Mode_EDB	Mode_RDB
Spearman's rho	Mode_EDB	Correlation Coefficient	1.000	.339**
		Sig. (2-tailed)	.	.000
		N	384	384
	Mode_RDB	Correlation Coefficient	.339**	1.000
		Sig. (2-tailed)	.000	.
		N	384	384

The Mode_EDB and Mode_RDB show a Spearman's rho correlation of 0.339 and a p-value of 0.000, which reflects a statistically significant moderate positive correlation between the two variables. The two variables were examined with 384 valid cases each, and the correlation coefficient implies that there tends to be an increase in the second variable when the first variable increases, this being the case at the 0.01 level of significance

Summary of Key Findings

Disruptive behavior was commonly experienced by operating room staff.No significant association was found between profession and exposure to disruptive behavior.A statistically significant positive correlation existed between exposure to disruptive behavior and negative behavioral responses.Even low or occasional exposure was sufficient to trigger negative emotional and behavioral reactions.

DISCUSSION

The present research sought to evaluate the consequences of surgical incidents for the operating room (OR) personnel, primarily their interaction with and reaction to disruptive behavior. The data obtained from the study indicated that there are significant associations between gender and both exposure to disruptive behavior ($p = 0.009$) as well as response to disruptive behavior ($p = 0.008$). Consequently, women were noticed to report the occurrence of disruptive behaviors more often, and their responses were more affected by the situation than men's. The findings suggest that sex is a critical determinant in the staff's perception and reaction to disruptive behavior. In addition, the chi-square tests indicated that the two gender groups had significantly different exposure to and response to disruptive behavior. These results highlight the importance of addressing the gender differences as well as the emotional strain that disruptive behavior imposes on the staff.

Pimentel et al. (2021) were interested in the safety culture in the operating room, so they looked at the perception of safety among healthcare workers during surgeries. The result showed that, nurses gave a stronger safety perception than attending doctors or trainees. This difference was due to different views on safety and the way surgical incidents were handled. The current research revealed that the difference in gender in regard to disruptive behavior was similar to Pimentel et al.'s findings which pointed to variability of safety perception

leading to different responses for incidents. It implies that if the safety culture is enhanced and the whole staff has the same perception of safety, then the occurrence of disruptive incidents could be minimized. The results of Pimentel et al. argue for the creation of a dependable safety culture in the operating room, which is associated with the decrease of disruptive actions and the improvement of surgical incidents' team reactions directly**.**

Spagnolo et al. (2021) The researchers and their circles have drawn their focus towards the issues of surgical fires (SF), which, although rare, still are considerable hazards in the operating theaters and usually occur due to the shortcomings in the protocols and the divided attention. The operating room staff's noncompliance with the safety guidelines and their distractions while the procedures were taking place were the major causes of surgical fires. This coincides with the current study's findings that have pointed out the disruptive behavior and distractions, and lapses in attention as direct causes of negative outcomes in the operating room. It stressed that the OR staff has to be very alert and keep strict control over their behaviors in order to prevent such incidents. The present study highlights that, as a matter of fact, stress plus disruptive behavior, which are very often a function of gender and experience, create a safety violation-prone environment. The two studies corroborate that there is a need for unceasing training and behavior change as the way of ensuring that the operating room is always at the safest practice level**.**

According to Campos et al. (2022), A long investigation that lasted for a year was conducted on the data obtained from the "black-boxes" of the operating room, which are the instruments that record both audio and video of surgical procedures. One of the conclusions of the study was the fact that non-related conversations and taking breaks to regain concentration were the main reasons for 26% of the incidents in the operating room. This particular research has been already done as the present study was conducted and shows that the surgical staff is also affected by disruptive behavior such as distractions in terms of performance and safety. Moreover, the authors recommended that if the surgical team is guided in a way to have their discussions more focused, and distractions are removed, then the incidents can be reduced. The research revealed that the presence of distractions in the operating room can lead to the death of patients and increased hospital costs. In fact, it coincided with the present study which was mainly concerned with controlling disruptive behaviors as a means of improving staff performance and patient safety.

Olin et al. (2025) conducted a thorough investigation of the surgical environment to detect the disturbances and their effects on the surgery results. The study indicated that distractions contributed largely to incidents and mistakes among the main factors being problems in communication and lapses of attention. This result is closely connected to the disruption behavior of the present study and indicates that such interruption might be the reason for the delay in the response of the operating room staff to the incidents. Olin et al. highlight the importance of eliminating distractions and improving communication within the surgical team. The outcomes of both studies are consistent, with the current study emphasizing that disruptive behavior leads to inefficiency and ineffectiveness in managing surgical incidents. The two investigations advocate the same measures of employing training and improved communication protocols to diminish the disruptive impact in the operating room as part of the operating room reform.

Chellam Singh and Arulappan (2023) The study conducted aimed to discover how operating room nurses viewed their involvement in patient care and safety during operations. The researchers deduced that one of the factors for the rise of errors and incidents was the exhaustion and uncertainty concerning the nurses' roles. The authors advocated for more explicit role definitions and better support for nurses to reduce their stress and enhance safety. This finding aligns with the current research which has revealed that disruptive behavior and stress exposure negatively impact staff reactions to

surgical incidents. Although the study did not provide any particular p-values, the outcomes are consistent with the current study's support for role clarity and psychological support for staff, especially in the context of coping with the emotional and professional fallout of surgical incidents. Both studies emphasize the need for improved staff well-being and very clear role definitions in order to minimize mistakes and to ensure patient safety.

Conclusion

The findings demonstrate that disruptive behavior in the operating room has a measurable negative impact on healthcare professionals' emotional, cognitive, and behavioral responses. Although exposure levels varied, disruptive behavior affected all professional groups similarly. The significant positive association between exposure and negative responses highlights the sensitivity of the OR environment. These results emphasize the need for structured communication, supportive organizational culture, and effective reporting and coping mechanisms to minimize the impact of disruptive behavior and enhance patient safety.

REFERENCES

Cooper JB, Newbower RS, Long CD, McPeek B. Preventable anesthesia mishaps: a study of human factors. *Anesthesiology*. 1978;49(6):399–406.

Wu AW. Medical error: the second victim. *BMJ*. 2000;320(7237):726–7.

Leape LL. Error in medicine. *JAMA*. 1994;272(23):1851–7.

Weinger MB, Slagle JM. Human factors research in anesthesia patient safety. In: Henriksen K, et al., editors. *Advances in Patient Safety*. Vol. 2. AHRQ; 2005.

Sexton JB, Thomas EJ, Helmreich RL. Error, stress, and teamwork in medicine and aviation: cross-sectional surveys. *BMJ*. 2000;320(7237):745–9.

Edmondson AC. Psychological safety and learning behavior in work teams. *Admin Sci Q*. 1999;44(2):350–83.

Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work–life balance among US physicians. *Arch Intern Med*. 2012;172(18):1377–85.

Scott SD, Hirschinger LE, Cox KR, McCoig M, Brandt J, Hall LW. The natural history of recovery for the healthcare provider "second victim" after adverse patient events. *Qual Saf Health Care*. 2009;18(5):325–30.

Reason J. *Human Error*. Cambridge: Cambridge University Press; 1990.

Pratt S, Jachna B. Care of the clinician after an adverse event. *Int J Obstet Anesth*. 2015;24(1):54–60.

Hu YY, Fix ML, Hevelone ND, et al. Physicians' needs in coping with emotional stressors: the case for peer support. *Arch Surg*. 2012;147(3):212–7.

Flin R, O'Connor P, Crichton M. *Safety at the Sharp End: A Guide to Non-Technical Skills*. Ashgate; 2008.