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REVIEW ARTICLE/BRIEF REVIEW

Disruptive behaviour in the perioperative setting: a contemporary review

Les comportements perturbateurs dans le contexte périopératoire: un compte rendu contemporain

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Abstract

Purpose *Disruptive behaviour, which we define as behaviour that does not show others an adequate level of respect and causes victims or witnesses to feel threatened, is a concern in the operating room. This review summarizes the current literature on disruptive behaviour as it applies to the perioperative domain.*

Source *Searches of MEDLINE®, Scopus™, and Google books identified articles and monographs of interest, with backreferencing used as a supplemental strategy.*

Principal findings *Much of the data comes from studies outside the operating room and has significant methodological limitations. Disruptive behaviour has intrapersonal, interpersonal, and organizational causes. While fewer than 10% of clinicians display disruptive behaviour, up to 98% of clinicians report witnessing disruptive behaviour in the last year, 70% report being treated with incivility, and 36% report being bullied. This type of conduct can have many negative ramifications for clinicians, students, and institutions. Although the evidence regarding patient outcomes is primarily based on clinician perceptions, anecdotes, and expert opinion, this evidence supports the contention of an increase in morbidity and mortality. The plausible mechanism for this increase is social undermining of teamwork, communication, clinical decision-making, and technical performance. The behavioural responses of those who are exposed to such conduct can positively or adversely moderate the consequences of disruptive behaviour. All operating room professions are involved, with the rank order (from high to low) being surgeons, nurses, anesthesiologists, and "others". The optimal approaches to the prevention and management of disruptive behaviour are uncertain, but they include preventative and professional development courses, training in soft skills and teamwork, institutional efforts to optimize the workplace, clinician contracts outlining the clinician's (and institution's) responsibilities, institutional policies that are monitored and enforced, regular performance feedback, and clinician coaching/remediation as required.*

Conclusions *Disruptive behaviour remains a part of operating room culture, with many associated deleterious effects. There is a widely accepted view that disruptive behaviour can lead to increased patient morbidity and mortality. This is mechanistically plausible, but more rigorous studies are required to confirm the effects and estimate their magnitude. An important measure that individual clinicians can take is to monitor and control their own behaviour, including their responses to disruptive behaviour.*

Résumé

Objectif *Les comportements perturbateurs, que nous définissons comme des comportements qui ne montrent pas à autrui un niveau adapté de respect et qui provoquent, chez les victimes ou les témoins de tels comportements, un sentiment de menace à leur égard, sont une préoccupation en salle d'opération. Ce compte rendu résume la littérature actuelle concernant les comportements perturbateurs telle qu'elle est applicable dans le domaine périopératoire.*

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Source *Des recherches sur Medline, Scopus et Google livres ont identifié les articles et monographies dignes d'intérêt, et nous avons également consulté les références de ces articles pour supplémenter nos recherches.*

Constatations principales *La plupart des données proviennent d'études hors de la salle d'opération, et comportent d'importantes limitations méthodologiques. Les causes des comportements perturbateurs peuvent être intra-personnelles, interpersonnelles et organisationnelles. Alors que moins de 10 % des cliniciens sont perturbateurs, jusqu'à 98 % rapportent avoir été témoins de comportements perturbateurs au cours de la dernière année, 70 % rapportent avoir été traités avec impolitesse, et 36 % rapportent être victimes d'intimidation. Les conséquences négatives sont nombreuses pour les cliniciens, les étudiants et les établissements. Bien que les données factuelles concernant les pronostics des patients se fondent principalement sur les perceptions des cliniciens, des anecdotes et des opinions d'expert, ces données soutiennent l'affirmation d'une morbidité et d'une mortalité accrues. Les mécanismes plausibles pour expliquer l'augmentation de la morbidité et de la mortalité comprennent le fait de saper tant le travail d'équipe, que la communication, la prise de décision clinique et la performance clinique. Les réactions comportementales des personnes exposées peuvent mitiger, de façon positive ou négative, les conséquences des comportements perturbateurs. Tout le personnel de la salle d'opération est impliqué, selon l'ordre suivant (du plus perturbateur au moins perturbateur): chirurgiens, personnel infirmier, anesthésiologistes et « autres ». La meilleure façon de prévenir et de gérer les comportements perturbateurs est incertaine, mais comprend: des cours de formation préventive et professionnelle, des formations en compétences non techniques, la formation en travail d'équipe, des efforts institutionnels pour optimiser le lieu de travail, des contrats de cliniciens décrivant les responsabilités du clinicien (et de l'établissement), des politiques institutionnelles supervisées et appliquées, des rétroactions fréquentes sur la performance, et le coaching et la remédiation du clinicien, si nécessaire.*

Conclusion *Les comportements perturbateurs font encore partie de la culture de la salle d'opération, et s'accompagnent de nombreuses conséquences délétères. Une croyance bien ancrée veut que ces comportements perturbateurs puissent potentiellement entraîner la morbidité et la mortalité des patients, ce qui est possible d'un point de vue mécaniste. Toutefois, des études plus rigoureuses sont nécessaires pour confirmer ces effets et estimer leur ampleur. Une mesure importante que chaque clinicien peut prendre est de surveiller et de contrôler son propre comportement, y compris ses réactions aux comportements perturbateurs.*

Introduction

Disruptive behaviour is a term used for a range of unacceptable clinician actions, including incivility, bullying, and harassment.[1] There is increasing evidence that these types of behaviour decrease the well-being of clinicians,[2-14] negatively affect healthcare institutions,[2,7,8,10,13-20] and may even undermine the quality of patient care.[2,6,8,12,14,21-26] As a result, the Joint Commission on the Accreditation of Hospital Organizations (JCAHO) issued a sentinel alert recommending that institutions address disruptive behaviour in order to ensure high-quality care.[26] Similarly, the Lucian Leape Institute recently reported that disruptive behaviour is a barrier to creating a work environment that is both safe for clinicians and facilitates good patient care.[14]

This review highlights how the current literature on disruptive behaviour applies to the perioperative domain and identifies experts' recommendations to prevent and manage these behaviours. Wherever possible, we highlight the nature of the evidence that supports our understanding. Although much of the literature is based on opinion and perception, we attempt to give less credence to these sources of evidence when making recommendations.

Definitions

There have been various definitions for the term "disruptive behaviour" both over time and amongst healthcare associations (Table 1). These definitions have often included both a formal definition and a list of representative types of disruptive behaviour. In response to the criticism that the formal definitions of some organizations are vague and ambiguous,[1,8,13,27-30] several medical associations have added a list of representative types of behaviour that should not be considered disruptive. While this does not eliminate all confusion, it does help to limit the possibility of inappropriately labelling clinicians who are advocating for patients or challenging existing systems. The common element that links the definitions in Table 1 is the perception that these types of behaviour potentially undermine patient care. As this interpretation is so vague that it would include almost any possible clinician behaviour, what constitutes disruptive behaviour can be better understood by examining more contentious criteria and examples of disruptive behaviour. One benchmark would include behaviour that undermines clinicians' ability to provide patient care, e.g., by making them feel intimidated or threatened.[7,31] The examples that associations provide generally involve some form of

Table 1 Definitions of disruptive behaviour by some prominent healthcare associations

Organization	Definition	Germane examples	Excluded behaviours
Canadian Medical Protective Association	Can interfere with communication between team member or with patients, and may negatively affect patient care and patient satisfaction[109]	• Dismissive comments • Derogatory comments • Insensitive, uncaring, callous attitudes • Inappropriate language • Profanity • Bullying • Threats • Angry outbursts • Demeaning conduct • Condescending conduct • Aggressive conduct • Boundary issues	• Good faith patient advocacy • Professionally written alerts • Complaining to an outside agency • Testifying against colleagues
Council on Ethical and Judicial Affairs, American Medical Association	Verbal or physical conduct, that does, or may, negatively affect patient care[110]	• Foul language • Threatening language • Aggressiveness • Hyperactivity • Intrusiveness • Irritability • Argumentativeness	• Good faith criticism
Joint Commission on Accreditation of Hospital Organizations (JCAHO)	Conduct that intimidates others to the extent that quality and safety are compromised [111]	• Verbal outbursts • Physical threats • Refusing to perform assigned tasks • Quietly exhibiting uncooperative attitudes • Reluctance to answer questions • Condescending language[26]	None provided

interpersonal transgression, such as incivility, bullying, or harassment. In light of this, we define disruptive behaviour as constituting the following three criteria: a) interpersonal (i.e., directed toward others or occurs in the presence of others); b) results in a perceived threat to victims and/or witnesses; c) violates a reasonable person's standard of respectful behaviour, as defined in the *Universal Declaration of Human Rights*[32] that includes the following:

1. Recognition of the inherent dignity in all people (Article 1);
2. Freedom from discrimination and arbitrary invasions of privacy (Article 3);
3. Freedom from degrading treatment (Article 5); and
4. Freedom from attacks upon honor and reputation (Article 12).

While some previous definitions have included a criterion that the behaviour must or *may* undermine patient care, we excluded this condition from our definition. "*Must*" would make the definition too narrow, since egregious behaviour that did not undermine care would be excluded, while "*may*" would not narrow the definition more than the three criteria we already included.

Frequency

Ubiquity and prevalence are used to estimate the occurrence of these behaviours. Ubiquity represents the proportion of clinicians who engage in disruptive behaviour, while prevalence is the number of such behaviours reported by clinicians. The estimates of ubiquity are derived from surveys and reviews of disciplinary records,[9,20,33-35] while estimates of prevalence are derived from survey studies.[5,8,22,23,36-48] Most studies examining many types of disruptive behaviour focus on ubiquity.

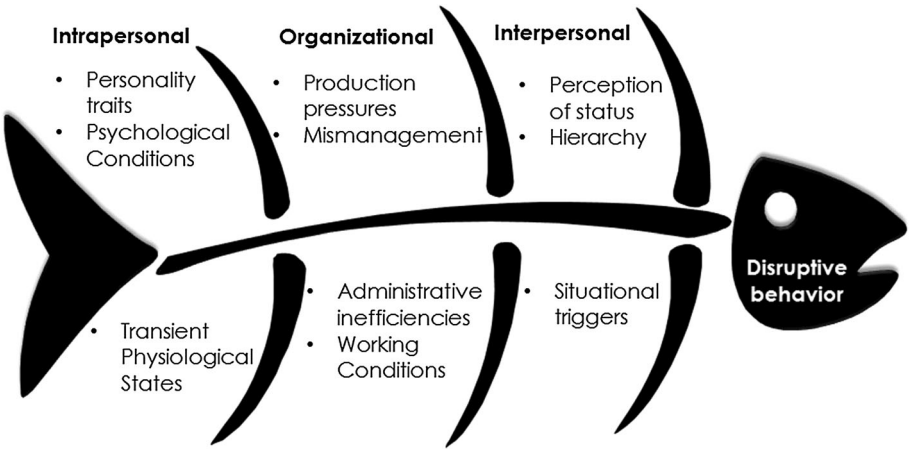

Fig. 1 Ishikawa diagram outlining the antecedents of disruptive behaviour. Image provided by PresenterMedia

Quantitative surveys suggest that the proportion of physicians (and other clinicians) who are disruptive is less than 10%.[9,20,33,35] Reviews of disciplinary records indicate a ubiquity of 6-18%,[27,34] although the percentage of these cases that are truly disruptive is debatable.[27] Physicians who reviewed the cases judged that less than 1% were truly disruptive, which was partly attributed to the lack of a standard definition. There is less agreement regarding prevalence, as estimates vary depending on which types of disruptive behaviour are measured, e.g., less than 1% of nurses in Thailand report sexual harassment,[47] while 91% of perioperative nurses in Ohio report verbal abuse.[41] Similarly, clinicians are more likely to witness disruptive behaviour than to be subjected to such behaviour. For example, 44% of nurses reported experiencing bullying in the previous year, while 50% had witnessed bullying.[4] The prevalence estimate also depends on the period of time under consideration, since almost all clinicians will experience disruptive behaviour during their career, while fewer will experience such conduct in a given year. Finally, prevalence estimates depend on whether the respondents are asked how often they have experienced specific examples of disruptive behaviour, or whether they would label themselves as victims of disruptive behaviour. For example, one survey found that 84% of junior physicians reported experiencing bullying behaviour, but only 37% affirmed being bullied.[49]

We recently conducted a preliminary analysis of 7,465 survey responses from operative clinicians.[50] Survey results showed that 7,241/7,465 (97.7%) respondents reported experiencing or witnessing at least one episode of disruptive behaviour in the past year, with the average respondent exposed to ten out of the fourteen types of disruptive behaviour measured. The results indicated that 5,233/7,465 (70.1%) respondents affirmed experiencing incivility, and 2,755/7,465 (36.9%) affirmed being bullied.

The antecedents

Experts have hypothesized a number of antecedents (i.e., causes) of disruptive behaviour, with some being supported by the perceptions of clinicians.[11-13,22,24,51-56] Based on qualitative survey data, antecedents are grouped into three themes: intrapersonal, organizational, and interpersonal[51] (Fig. 1).

Intrapersonal[51]

These are personality traits, psychological conditions, and transient physiological states that increase the probability of acting disruptively. These factors can reduce a clinician's ability to deal with conflict, e.g., reduce their capacity for empathy or impulse control. Personality traits that may increase the risk include type A personality, narcissism, and passive-aggressive tendencies.[13,54,57] Disruptive behaviour may be more likely displayed by clinicians with underlying depression, addiction, stress, and burnout.[24,51,54,58] Even transient physiological states, such as hunger and exhaustion,[51] have been implicated.

Organizational[51]

These are the conditions within a healthcare work environment that increase clinician stress[13,24] and therefore increase the probability of disruptive behaviour. These include production pressures,[51,52,59] resource mismanagement, supply shortages, and administrative inefficiencies.[40,41,52] Working conditions may also be responsible[1]; for example, the operative context may comprise unfavourable conditions, such as long hours, few breaks, and large teams in cramped conditions. These factors increase stress in an additive, if not synergistic, manner.[60] In particular, work stress is compounded when a high demand is placed on workers while simultaneously

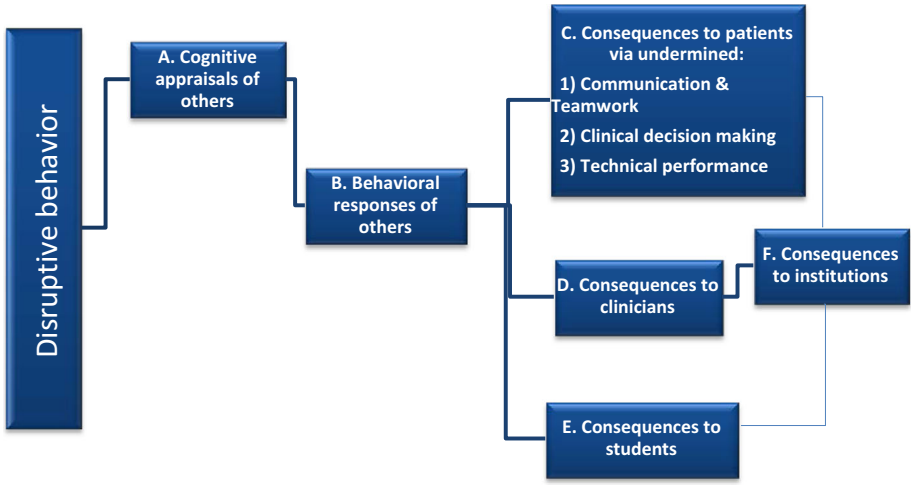

Fig. 2 The causal chain between disruptive behaviour and consequences

limiting their control over the situation.[60] This is the case when workloads are increased without consulting clinicians or including them in the decision-making process.

Interpersonal[51]

There are characteristics of interactions between clinicians that increase the probability of disruptive behaviour.[61] Clinicians may interact with the preconception that their experience, position, or expertise is superior to that of other individuals.[51] This notion may cause them to treat the supposed "lesser" clinicians with a lack of respect or to exert control over them.[51] Clinicians who endorse the increasingly rejected concept of medical hierarchy may be at an increased risk of interacting in this manner.[51] One such hierarchy is based on occupation, where physicians (especially surgeons) have traditionally been placed at the top of this model.[11,61,62] While few studies have examined the predictors of instigation beyond profession, some hierarchies related to race and sex may also influence the occurrence.[63,64] Males are more frequent instigators, and black and Asian doctors are more frequently victims.[27,49,65] Certain situations also increase the risk,[51,59,66] e.g., an operating room in a clinical crisis.

Who is disruptive?

Acknowledging that occupation-related hierarchies exist raises the question regarding which professions are more likely to be disruptive in the operating room and with what frequency. While there is an order to the frequency of instigation between the various groups, all operative professions have been implicated.[67] Nevertheless, in both qualitative and quantitative survey research, surgeons have been identified as the most frequent instigators.[23,51,68] A number of factors likely explain this outcome. Personality studies have shown that surgeons score lower on agreeability measures than other physicians.[69,70] While there has been a shift to more horizontal organizational structures in recent years,[62] antiquated power hierarchies linger in some operating rooms. Some individuals still perceive surgeons to be at the top of this hierarchy.[71] This perception likely relates to the surgeon's length of education, often high earnings, the perception (or fact) that they bring business to the institution, and the tradition that surgery is somewhat distinct from the rest of the medical profession.[72,73] There is some evidence, including preliminary findings from our group, supporting the assertion that clinicians perceive groups thought to be higher in the hierarchy as more frequent instigators.[67,74] Several studies found that nurses were also perceived to be frequent instigators.[23,51,67] This departs from the simple power model that would have predicted nurses be less frequent instigators.[75] This may be due to a high degree of horizontal workplace harassment between members of less powerful groups.[76] While the effect of occupational hierarchy should be considered, the importance of this single antecedent should not be overstated.

The consequences

In addition to disruptive behaviour undermining the rights of colleagues, there may be serious consequences. These depend on how those who are exposed interpret the behaviour (the clinician's cognitive appraisal) and how they respond (the clinician's behavioural response).[45,51] The consequences may extend directly to patients, clinicians, and students, and indirectly to institutions (Fig. 2).

The cognitive appraisal of the victims and witnesses

According to psychologist Richard Lazarus, when an individual experiences or witnesses an event such as a disruptive behaviour, they unconsciously appraise the situation before responding.[77] This occurs in two steps. In the primary appraisal, the individual evaluates whether the event threatens their goals, e.g., delivering patient care or maintaining a positive self-image. If the individual perceives a threat, a secondary appraisal occurs. This involves assessing the magnitude of the threat in terms of both the harm that it has done and the harm that it may cause. The individual also evaluates how they can deal with the threat and how likely these efforts are to be successful. The cognitive appraisals are important because they can modify the psychological sequelae to victims and witnesses and can help determine how they respond.

The behavioural responses of the victims and witnesses

Behavioural responses are the actions that a person takes in response to the behaviour. These actions can influence the negative consequences by either exacerbating or attenuating them.[8,78] Some categorize these reactions as either good or bad. Good responses address the behaviour constructively,[51] while bad responses may range from acquiescence to a negative reaction. Such framework is too simplistic and may undermine understanding the problem in a particular clinical setting. We propose a framework derived from conflict resolution theory[79,80] where responses fall on a continuum based on how strongly a clinician opposes or supports the particular behaviour (Table 2).[81]

The effect on patient care

The evidence directly linking disruptive behaviour to poor patient outcomes is relatively poor, being limited to expert opinion and the perceptions of clinicians. Nevertheless, there are three mechanisms by which patient care is undermined (Fig. 3).

Decreased patient care due to reduced communication and teamwork

Disruptive behaviour can undermine communication in several ways. First, clinicians may communicate less[1,6,11,54,56,82,83] as a means to avoid further mistreatment.[84] This response may result in a decrease in transfer of clinical information[6] or a delay in communication,[1] both of which threaten care. If this is the recurring response and the offender is not confronted, the behaviour that was initially considered deviant may become accepted. The airline industry labels this phenomenon as normalized deviance.[85] Similarly, avoidance can lead to spirals, where the parties become progressively more distant, further reducing trust.[86] The link between disruptive behaviour and compromised teamwork/communication is supported by a recent study in neonatal intensive care simulation. Study results showed that rudeness led to a decrease in diagnostic and procedural performance, especially when there was a lack of information sharing and help-seeking behaviour.[87]

Secondly, clinicians may intentionally miscommunicate, omit information, or be deceitful.[13] A recent survey found that some surgeons and anesthesiologists admitted lying to members of the other profession, most commonly about what care had been provided.[88] Anesthesiologists, but not surgeons, cited that the fear of being blamed was one reason for lying.[88] This confirms the suspicion that some clinicians withhold information in order to avoid criticism.[8,13]

Third, clinicians may communicate in an aggressive style that damages relationships. This destructive communication may spiral upward to the point where communication shifts from problem solving to personal attacks.[85] Accordingly, anger and fear will increase, leading people to retaliate[1]; relationships will become strained and teamwork will decrease. Clinicians who adopt avoidant, manipulative, competitive, or coercive responses as a dominant strategy are more likely to display behaviour that could undermine communication and teamwork.

Root cause analyses and observational trials support the view that there is a relationship between reduced communication/teamwork and poor patient outcomes. In their 2010-2014 assessment of 4,597 adverse events,[89,90] the JCAHO identified human factors, leadership failure, and communication failure as the three most common root causes. It is notable that communication failure is present in up to 65% of events (Fig. 3). In an observational study performed at two medical centres and two ambulatory surgical centres in the USA, the investigators used an established tool to quantify operating room team function.[91] Poor communication increased the risk of major complications and death, independent of the American Society of Anesthesiologist's physical status score. While causality is difficult to establish in observational trials, study results confirmed a significant association.

Decreased patient care due to undermined clinical decision-making

Clinicians who experience disruptive behaviour may respond by placating the instigator at the expense of patient care.[1,13,92] The Institute for Safe Medical Practices found that some clinicians are intimidated into compromising clinical decision-making in a number of

Table 2 The continuum of behavioural responses to disruptive behaviour

	Category	*Subcategory*	Definition
Strength of opposition to disruptive behaviour	Aggressive opposition	*Coercing*	Clinician uses threats, physical violence
		Competing	Clinician uses aggressive verbal confrontation
	Assertive opposition	*Collaborating*	Clinician works with the instigator to find solutions that benefit all
		Compromising	Clinician bargains with the instigator in order to find solutions that are at least marginally acceptable to all
	Passive opposition	*Ingratiating*	Clinician attempts to gain favour with the offender or makes them feel guilty
		Manipulative	Clinician manipulates the offending party into stopping
	Inaction	*Avoiding*	Clinician ignores or downplays situation, or avoids interacting with others
	Reluctant support	*Acquiescing*	Clinician placates to the instigator
	Willing support	*Promoting*	Clinician knowingly supports the behaviour

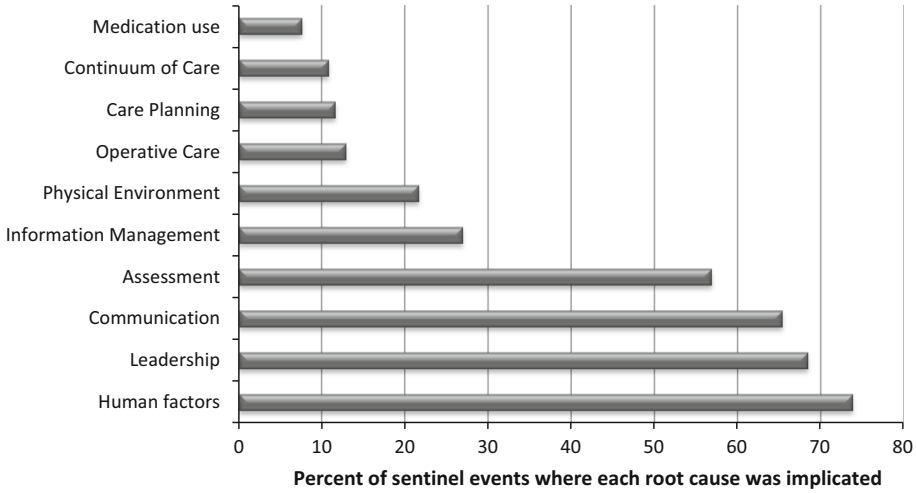

Fig. 3 A summary of root cause analyses performed on 4,597 adverse events reported to JCAHO from 2010-2014. JCAHO = Joint Commission on the Accreditation of Hospital Organizations

ways.[92] For example, clinicians may assume that an order is correct and allow it to stand (despite concerns about safety) in order to avoid dealing with the instigator.[92] In addition, many clinicians indicated that they considered themselves inappropriately pressured to accept an order, dispense a product, or administer a medication.[92]

Decreased patient care due to reduced technical performance

Some clinicians perceive that disruptive behaviour can negatively affect procedural skills,[17,54,84] increase medication[17] and other medical errors,[85] and promote substandard practice.[7,10] Some clinicians also sense that these behaviours can reduce the performance of both individuals and teams.[52] Technical performance could be affected in several ways. The cognitive appraisal may result in stress leading to reduced focus.[6] The clinician's attention may also shift from the patient to the instigator—to the detriment of care.[83,84]

The effect on clinicians

Correlational research studies using established tools with good psychometric properties, as well as expert opinion rooted in robust theory support the effect of disruptive behaviour on clinicians. Disruptive behaviour is associated with occupational stress and anxiety in those exposed,[3-9] leading to increased use of sedatives and sleeping aids.[3] This decline in general well-being[6-8,10-13] may manifest as burnout,[93] decreased self-esteem,[8] or depression.[4] Stressors such as disruptive behaviour are more likely to lead to disease in individuals whose cognitive appraisal leads them to adopt maladaptive coping strategies.[60]

The effect on students

The effect on students is supported by correlational research, qualitative surveys, and student perceptions. Disruptive behaviour certainly undermines students' well-being.[74,94,95] Disruptive clinicians are powerful negative

Fig. 4 A framework to prevent and manage disruptive behaviour in the operating room

role models,[13,54] potentially leading students to adopt this type of behaviour. Such behaviour may have an effect on career choice, with some students reporting a loss of interest[96] or respect[83] for surgical specialties.[83,84] Our group recently surveyed 563 senior medical students in Canada and the USA, and survey results showed a decrease in the probability that minority groups who were exposed to disruptive behaviour would apply to a surgical residency.[97] Nevertheless, survey results also showed that some students perceived that they were also dissuaded from applying to anesthesiology training programs. As with clinicians, the effect on students is dependent on their cognitive appraisal. Students who see disruptive behaviour as a considerable threat and one that is resistant to improvement are more likely to be psychologically impacted. Additionally, students who think that a given disruptive behaviour reflects the behaviour of an entire specialty would be more likely to modify their career choice.

The effect on institutions

The effect on institutions is supported by economic analysis, expert opinion, clinician perceptions, and correlational research. Bullied clinicians are less productive.[7,8,15] An analysis of data from 2,160 staff nurses reported that workplace incivility cost approximately $11,600/nurse/year due to lost productivity.[16] A 400-bed American hospital showed that it could save $1 million by eliminating disruptive behaviour.[17] Those exposed are less satisfied with their careers,[18] are less committed to their organization,[7,8,19] consider decreasing their work hours,[18] may cease direct patient care,[18] have increased sick time and absenteeism,[8,18] and leave their employment more frequently.[19,98] This turnover decreases organizational efficiency[13,17,20] and makes recruiting more difficult.[10]

Disruptive behaviour can result in legal risk from three main sources. First, mistreated clinicians may bring legal action against the instigator and the institution.[8,9,13] Institutions that are found to have tolerated this behaviour may be liable for negligent retention.[56] Second, there are legal risks associated with poor outcomes.[13] Third, clinicians who are dismissed for disruptive behaviour may also take legal action.[8,9] Employees may also take their grievances public,[9] resulting in damage to an institution's reputation.[8,10,85] Other consequences to institutions include the costs associated with non-compliance by disruptive clinicians with new practices.[11]

Prevention and management of disruptive behaviour

A number of measures have been proposed to prevent and manage disruptive behaviour (Fig. 4). These are based primarily on expert opinion, management theory, and organizational theory. We outline many of these within a four-step framework:

Set the expected standards for behaviour

Organizations should define the types of behaviour that are deemed disruptive (as well as those that are more appropriate)[7-9,13,56,99] and should specify the appropriate behavioural responses. Work contracts should be unequivocal regarding the expectations. At the level of professional practice, standards should be disseminated through oaths, professional standards, and codes of ethics and conduct. At the institutional level, standards must be set in the bylaws,[10,85] codes of conduct,[85] and mandatory institutional curricula. Management should lead by example. The same behavioural expectations should apply to all clinicians, especially in light of the perception that senior

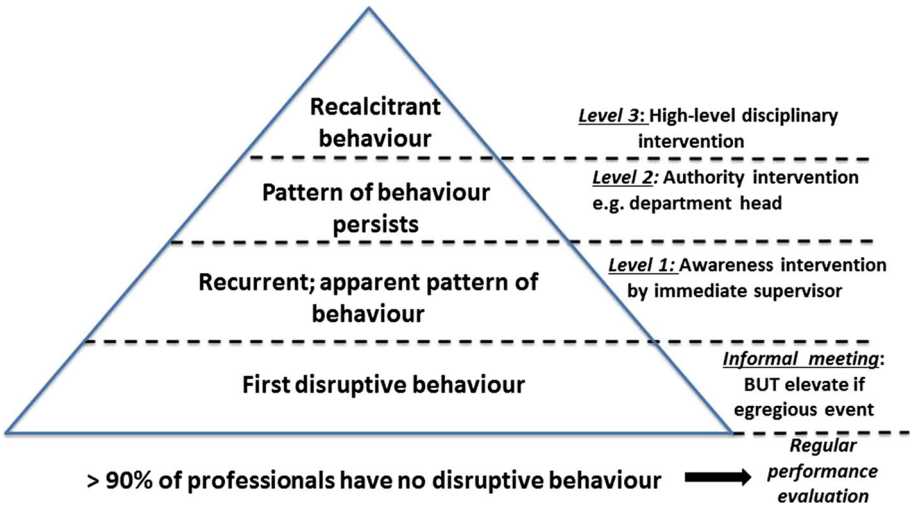

Fig. 5 A staged remediation and intervention framework. Reproduced with permission from[103]: *Hickson GB, Pichert JW, Webb LE, Gabbe SG*. A complementary approach to promoting professionalism: identifying, measuring, and addressing unprofessional behaviors. Acad Med 2007; 82: 1040-8

clinicians who generate a large amount of business are treated more leniently.[85] One study showed the importance of setting a standard by reporting that anesthesiologists working at an institution with an anti-bullying policy were less likely to report bullying than those working in an institution without such a policy.[100]

Equip and educate clinicians to meet the standards

All employees should be educated about disruptive behaviour and the respective behavioural responses. Professional wellness programs should identify and remediate the intrapersonal antecedents. Clinicians should consider assessing their own risks for disruptive behaviour by completing screening tools in clinician wellness programs, while institutions may also consider using employment screening tools to identify the at-risk clinicians.[101] Clinicians should be made aware of resources available to them, including those in the human resources department, professional organizations, peer support and mentorship programs for new clinicians, and preventive health services and wellness initiatives. Preventing interpersonal factors requires creating a respectful culture in the operating room[102] by using initiatives such as interprofessional education, soft skills training, and structured communication tools. Organizations need to identify and optimize the contributing institutional factors.[102] Based on the identified organizational antecedents, this would involve keeping clinician workloads manageable, ensuring effective and efficient management of resources, supplying appropriate tools and conditions to deliver care, and engaging clinicians in decisions that affect their workloads.

Monitor compliance with the standards

There must be mechanisms to report unacceptable behaviour while retaining protection and anonymity, if required.[103] Staff should have a clear understanding of the mechanisms for reporting to management,[56] and it should be clear that reprisals will not be tolerated. Evaluations of interpersonal skills[7,35,56] must be part of regular performance evaluations, including input from all team members, e.g., 360° evaluations.

Enforce standards and provide staged remediation when required

Dealing with disruptive behaviour is difficult, unpleasant for all concerned, and often avoided by management. The crucial factor is that the inappropriate behaviour is not to be ignored. There are various frameworks for dealing with the problem, most of which emphasize that corrective action must be just, fair, and prompt, and involve remediation. Fig. 5 represents one such method.[104] The process must be fair and remediation cannot be arbitrary.[85] In this regard, institutions should have robust policies that include how to deal with disruptive behaviour of different severity and frequency[7,9,10,99,103-105] (Fig. 5). The corrective action must be just, i.e., in proportion to the severity. Nevertheless, the corrective action and feedback should exhibit compassion, acknowledge the positive contributions of the clinician, and identify precipitating life events. The focus should not solely be punitive, and rehabilitative services should also be in place. As is shown in Fig. 5, the majority of clinicians do not display disruptive behaviour and regular feedback for performance is sufficient. In those cases involving disruptive behaviour, most involve a one-off occurrence that is usually remedied by an informal meeting with the immediate supervisor. Again, the remediation should involve compassion and may involve consolation and coaching and provide the clinician with the necessary feedback and resources (e.g., mentorship, shared

Table 3 Guidelines for civil behaviour

John Hopkins Rules of Civility that are applicable to the operating room[112]	The Ontario Medical Association's fundamentals of civility[113]
• Acknowledge others: their presence, worth and effort	• Respect others and yourself
• Respect others' opinions, time, space (physical & emotional)	• Be aware
• Speak kindly	• Communicate effectively
• Respectfully assert yourself	• Take good care of yourself
• Don't blame	• Be responsible
• Keep it down	

colleagues, and wellness initiatives) to prevent recurring episodes. Documentation may not be required. More egregious first-time events and recurrent events should be referred to more senior leadership (e.g., the department head) and should be documented. As in first-time events, the clinicians should be offered similar services, but these may need to be ongoing. More intensive coaching and therapy may also be required. The clinician should be aware that recurrent disruptive events are serious and pose a personal risk. Egregious and recalcitrant events will require all the aforementioned interventions, but possibly with greater intensity. Nevertheless, there will also be punitive actions that could culminate with referral to the licensing authority and possible termination of privileges.

The responsibility of individual clinicians

All clinicians who work in the operating room should be educated on guidelines for civil operating room behaviour. The Johns Hopkins Civility Project and the Ontario Medical Association's Physician Health Program/Physician Workplace Support Program have developed civility frameworks applicable to healthcare professionals (Table 3). Clinicians should learn behavioural responses that do not exacerbate detrimental consequences. So as not to undermine communication, teamwork, decision-making, and technical performance, clinicians should be encouraged to be assertive in opposing the disruptive behaviour by adopting a collaborative or compromising behavioural response. Clinicians should also learn to modify their cognitive appraisal of disruptive behaviour so it becomes less detrimental to their own well-being and less likely to undermine their performance. Cognitive behavioural therapy, a common tool used to alter cognitive appraisal,[106] teaches skills such as recognizing and avoiding cognitive distortions (e.g., catastrophizing). It is incumbent upon institutions to support clinicians in this task and upon clinicians to avail themselves of wellness opportunities. This can be achieved by offering clinicians development opportunities and resources related to communication, conflict resolution, and cognitive-behavioural techniques.

Summary

Disruptive behaviour is a significant problem in the operating room and originates from intrapersonal, interpersonal, and organizational issues. While only a small percentage of clinicians are instigators, other clinicians, students, and institutions may bear the consequences. Although there is a low level of evidence to support a direct effect on patient outcomes, our review presents plausible mechanisms by which such an effect could occur. The behavioural responses of those who are exposed to disruptive behaviour can positively or adversely moderate the consequences. While all operating room professions are implicated in this problem, surgeons remain the most common instigators.

Further study of operating room behaviour is essential. Much of the data comes from studies outside the operative context or with limitations related to sampling frames, statistical methods, and survey tools. More appropriate tools are beginning to proliferate.[22,81,107,108]

Given these data limitations, the optimal means to prevent and manage disruptive behaviour is uncertain. Clinicians must have contracts outlining the responsibilities and behavioural expectations of both clinicians and management as well as the reasonable institutional supports that clinicians can expect when performing their duties. There must also be ongoing monitoring through regular performance feedback, and institutions must enforce policies and implement graded remedial processes. An important step that individual clinicians can take is to monitor and control their own behaviour, including their responses to disruptive behaviour. It is incumbent upon institutions to support clinicians in this task by offering them resources such as coaching, professional development, and soft skills training.

Conflicts of interest None declared.

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