

Death on the table: anaesthetic registrars' experiences of perioperative death

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Background: A perioperative death can be a devastating event for which anaesthetists' training does not necessarily prepare them. Previous authors have documented a range of reactions to this event. This study set out to explore individual personal and professional reactions amongst a group of senior anaesthetic trainees.

Methods: A qualitative methodology was employed and purposive sampling used to select participants. Ten registrars in their fourth year of specialist training in the University of KwaZulu-Natal Department of Anaesthesia were interviewed. Transcripts of the interviews were thematically analysed.

Results: Themes expressed by participants fell into three broad categories: professional role (responsibility, coping, functioning after a death), relationships with patients and families (nature of the case, emotional distress, bearing bad news), and personal impact (guilt, physical sequelae, support, desensitisation).

Conclusion: Participants' perceptions supported the notion of potential second (anaesthetist) and third (subsequent patient) victims after a perioperative death. These underscore the importance of the expressed need for debriefing and an interval before resuming duty. The phenomenon of desensitisation was expressed as a spectrum between being dissociated from the event and disconnected from the people involved, raising the possibility of perioperative death as a contributing factor to burnout. This study hopes to improve awareness of the potential consequences of perioperative death and the need for these consequences to be addressed.

Keywords: anaesthesia training, debriefing, desensitisation, perioperative death

Introduction

'We got into medicine because we value life and because we want to save people ... what do you do when you can't save that life? How do you deal with the emotions?'

Anaesthetic training 'centres on prevention, diagnosis and treatment of potentially dangerous events'.¹ However, when such an event does occur, current training does not prepare us to deal with the consequences in our professional and personal lives. The relationship between the anaesthetist and patient is unique, based usually on a single preoperative visit and attempting to develop meaningful rapport. Yet the trust placed in the anaesthetist and the reciprocal responsibility taken for the life entrusted is profound. Consequently, this can contribute significantly to anaesthetists' feelings of guilt and personal responsibility in the event of a perioperative death. This study set out to describe the range of reactions to such an event amongst a group of anaesthesia trainees. Employing a qualitative methodology, 10 registrars in their fourth year of specialist training in the Durban academic cluster were interviewed. The findings reveal participants' perceptions of their professional role as anaesthetists, of their relationships with patients and patients' families, and of impacts on their personal lives.

Previously published international studies^{2–6} indicate that a high number (up to 70%) of anaesthetists report experiencing adverse personal and professional effects following a perioperative death. White and Akerele⁶ noted that 35% of respondents in their study admitted to feelings of personal responsibility for an intraoperative death. Other authors^{3,4,7,8} described feelings of blame, guilt, recurrent distressing thoughts about what could have been done differently, loss of confidence, and increased

vulnerability to error. Long-term sequelae included depression, nervous breakdown and prolonged sick leave. The Association of Anaesthetists of Great Britain and Ireland⁹ acknowledge the stressful nature of such an event and the increased vulnerability of anaesthetists to suicide, substance abuse and addiction.^{7,10} They propose that this vulnerability is a result of ineffective coping mechanisms for dealing with stress, and inadequate support systems within the profession.

Several authors^{1,2,9,11} make detailed and valuable recommendations about the administrative aspects following a perioperative death, including collegial support of the anaesthetist concerned. Others^{8,12,13} have looked at the effect of a death on subsequent performance, and the possibility of staff members needing a break from clinical duties. Most respondents in these studies believed that mandatory debriefing sessions, counselling, and operating room debriefings would be beneficial. In this vein, Martin and Roy¹⁴ discuss the phenomenon of 'first, second and third victims' in a perioperative catastrophe. The patient is the first victim. The anaesthetist may be considered the second victim. If the anaesthetist's professional capacity is impaired as a result of an acute stress response, a subsequent patient anaesthetised by the impaired anaesthetist may become the third victim.

It is evident that there exists a wide spectrum of personal reactions to stress, and an equally large number of personal and external factors that may influence these. While previous authors have quantified the extent of the problem, the qualitative aspects of individuals' reactions to a patient's death have not been captured. Furthermore, relatively little research has been done on the impact of perioperative deaths on anaesthetists within the South African context. Moving beyond quantitative

studies relating mainly to established professionals in first-world conditions, this study explores the qualitative experiences of trainees in a developing country with a high patient load.

Methods

An interpretive approach was adopted, within the realm of qualitative research. Purposive sampling was used to select participants. Registrars in their fourth year of training in the University of KwaZulu-Natal Department of Anaesthesia represent those who have had significant and varied exposure to perioperative deaths, and were asked to reflect on their experiences. Ethical approval was obtained from the relevant authorities, and informed consent from participants. A semi-structured interview schedule was constructed based on a distillation of issues raised by previous studies. Individual interviews were conducted by SJ, as a member of the registrar group, to reveal participants' thoughts, experiences, perceptions and depth of emotion.¹⁵ Interview content was independently reviewed by both authors and the data categorised based on themes emerging from the interviews. These categories were then examined for the existence of patterns, core consistencies and meanings that led to a better understanding of the experiences, personal consequences and needs of the participants involved.

Findings

Of 15 fourth-year registrars, three had not had any perioperative deaths during their training, and two were unavailable for interview. The sample group comprised five males and five females, with an age-range of 30–40 years. Participants' time spent in anaesthetic practice ranged from 5 to 14 years. The number of perioperative deaths experienced by participants, either as the primary anaesthetist, as a junior working with a consultant, or assisting during a resuscitation in a colleague's theatre, ranged from 1 to 20. There were fewer deaths with increasing experience, and a relatively higher number of deaths while participants were medical officers prior to joining the registrar programme or during their first year of registrar time.

From the interview data, 11 themes arose, which could be grouped into three broad areas:

- the impact of a perioperative death on the participant's professional role;
- aspects of participants' relationships with patients and patients' families;
- the personal impact of such an event on the participant.

Role as anaesthetist

Participants generally felt professionally responsible for the care of their patients: *'I want to be there for my patient, to reassure them, to make them feel like things are OK because I'm here'; 'We are the last people that they see before they get anaesthetised — I guess in that situation you'd want an encouraging word or a reassurance that things will go OK'; 'we are the patient's advocates'; 'I couldn't let anyone else know that I was very stressed. Because I feel if the anaesthetist loses it in theatre, everyone else goes a little pear-shaped!'*

Increased responsibility and ability to cope were noted to accrue with increasing seniority in the discipline: *'I think you grow a bit with every complication you have in theatre'; 'You're able to cope a bit better.'*

As regards the immediate aftermath of a death, most participants felt that they had to continue working; some saw this as problematic, others as a welcome distraction: *'No matter how bad I feel, I would never delay a case because I'm feeling upset'; 'I think you just want to keep working to take your mind off things. It's just how you handle stress'; 'You have to just move on and keep going, and then process everything the following day, which is probably the wrong thing to do.'*

The level of their functioning in theatre after having experienced a perioperative death was of concern to a number of participants: *'Your shift should stop there and someone should take over, because the repercussions only start to show up later; when you're starting your next patient, you become hyper-vigilant, or you start second-guessing yourself'; 'You stop feeling, you become very mechanical at that point. And you just have to push on'; 'I was on call the next day ... I was very unhappy. I felt I had a tachycardia, I was sweating. It was inappropriate, because I'm comfortable with Paeds and it's something that I do regularly. But for that case, the level of stress and the level of anxiety — I double-checked, triple-checked the machine, the equipment, I was watching the surgeon like a hawk ... it was excessive. I think it was spill-over from the night before, and it was actually something that persisted for a few days.'*

Relationships with patients and family

The patient's preoperative status played a significant role in the participants' reaction to their death: *'For an ASA 1 or 2 patient that comes for an elective procedure, and something goes wrong, where you didn't anticipate the death, I know it would affect me ... I can see myself finding that harder to come to grips with.'*

Compared with elective cases, participants seemed to find the deaths caused by trauma-related injuries easier to bear: *'It was a stab heart so we knew that we were fighting a losing battle from the start, so that was easier for us to cope with'; 'He was an "unknown", he was just found on the roadside. We didn't know his identity.'*

Occasionally, however, unexpected circumstances, even in those commonly experienced trauma cases, caused significant emotional distress: *'The case itself was very much like any other case that we did, but it was the first time that I had to sit and wait for a patient to die. And that was exceptionally difficult.'*

Interactions with patients' families were infrequent for anaesthetists, but nonetheless disturbing: *'I never feel comfortable giving bad news to people'; 'I find it very hard — not the speaking to them, but emotionally dealing with their pain'; 'Having to deal with the family makes this person more human. And then all the emotional aspects come in.'*

Personal impact

Emotionally, a sense of guilt and personal responsibility for a fatal event were expressed by participants: *'I think the biggest question in my mind was whether it was the right choice of anaesthetic. That for a long time still worried me; up until now it still worries me'; 'The family were understanding — they accepted it ... but I didn't accept it ... Because even up to this point, I can't say what went wrong'; 'I think doctors are in a very unusual situation — we're not personally related to our patients but we are so intimate with them. It's very, very strange to be that deeply moved for someone who you're not close to.'*

Physical sequelae were experienced after a death: *'You're tired, you're having to deal with this trauma coming in, and you have to keep on your feet — that was more of a stressful thing, of trying to keep up, and keep on top of things.'*

Support from colleagues following a death was inconsistent: *'I've, in my 7 years, had one debriefing session for a trauma case; 'No management input, no consultant input, no departmental input. You just did the next case'; 'I think [debriefing] would have made a huge difference, because I think I was questioning myself and no one in that circle who could understand the scenario was there to speak to me on that level'; 'I think the most important thing is the learning experience you can take from this; as long as you can learn from things, that makes it a lot easier to deal with'; 'You'd get your compassion through chatting to your friends about similar experiences. I think that's part of debriefing.'*

To varying degrees, in the long term, participants experienced feelings of desensitisation to patients' deaths. They expressed this desensitisation as the ability to 'deal with it better', 'rationalise it better' and not become 'emotionally involved'. Some saw it as a 'defensive quality'. One participant described it as being able to 'de-emotionalise' the event in the acute period in order to focus on the emergency at hand. Some regretted this development: *'For me, on a personal level, I realised that I'm still an emotional person. Which is a good thing, 'cause for a while I thought that I was completely desensitised from everything and everyone. And the fact that I felt for this patient made me feel — even though I took it to an extreme — made me feel human.'* Another participant offered a distinction between being 'dissociated' — being present in the experience, but maintaining a sense of rationale and perspective — and being 'disconnected' — being unable to relate to or process the incident on a personal or emotional level.

Discussion

Rather than discuss all the findings, a number of which substantiate and illustrate with greater depth the data found in previous quantitative studies,^{2-8,10} we have chosen to highlight just the salient findings that provide new insights.

Professional role

Scott *et al.*¹⁶ wrote of a sense of pressure internally (from the person involved) and externally (from colleagues, seniors) 'to move on and put the event behind them'. When talking about their professional role, our participants expressed a similar expectation that an anaesthetist would be able to recover after such a perioperative death and maintain his/her composure, continue working under conditions of high stress and urgency, and provide an efficient ongoing service. It was this expectation that often pushed anaesthetists to return to their operating theatres (immediately or in the days to follow) to continue working, despite fatigue, emotional strain, doubt and insecurity.

All the participants in this study expressed that they felt able to function in theatre immediately after a perioperative death, if required to do so. However, their narratives reveal that the ability to function did not always equate to a state of personal or professional well-being.

Time off after a death

Opinions varied on the option of time off after a perioperative death, and the amount of time considered appropriate. Participants agreed that a period of time off would be beneficial, and should be individualised. It was conceded that time off

might not always be feasible in the light of staff shortages and service loads. The findings of this study confirm those in the literature reflecting other anaesthetists' experiences.^{5,16} Based on the prevalence of the adverse effects experienced and the variety of ways in which these effects may manifest, an anaesthetist who continues or returns to work cannot always be assumed to have recovered adequately.

Support and debriefing

Consistent with findings elsewhere,^{6,10,17,18} post-event debriefing, though believed to be beneficial, was both rare and inadequate for participants in this study. In its absence, some participants' feelings of guilt and self-doubt were notably heightened and longer lasting. Most expressed regret about the loss of an opportunity to learn from the case and better equip themselves for future practice.

Participants derived significant support from informal discussion with colleagues about adverse incidents. The value of this interaction should not be underestimated. It demonstrates a powerful sense of community amongst colleagues, and a potential support network. It illustrates that registrars are often in the best position to recognise distress or dysfunction in their colleagues; and begs that they, and consultants, be trained and alerted to this need, and assume a greater responsibility to respond to it.

Desensitisation

It was interesting to see how participants interpreted this phenomenon, and the fact that their expressions covered a spectrum. On the one hand, some participants expressed that being desensitised to patient deaths enabled a more efficient level of professional functioning and enabled them to accept the outcome with greater ease. To these participants, desensitisation represented a healthy coping mechanism, allowing them to be more resilient.

On the other end of the spectrum, some participants described desensitisation as a state of detachment, whereby they become 'callous' and 'feel nothing'. They expressed that a limited emotional responsiveness was almost inevitable in their line of work, and was a defensive quality, perhaps protecting them from being affected by sadness or violence surrounding a case. There was, however, a sense amongst some participants' narratives that desensitisation was a maladaptive response.

Though the concept of 'burnout' was not specifically introduced or raised by participants, Sonnentag¹⁹ proposes that it is almost inevitably associated with the caring professions. She argues that depersonalisation, as a 'coping strategy', is a key feature of burnout, and that cynicism and disengagement, as expressed by several participants, are aspects of depersonalisation.

Participants' responses to perioperative deaths suggest that, in most cases, these events had significant personal and professional impact. Yet it is important to note that not all perioperative deaths are necessarily emotionally or psychologically traumatising for the anaesthetist. Nor is it suggested that there is only one appropriate response to such an adverse event. Participants spoke of their responses and the phenomenon of desensitisation in both positive and negative terms, with no consensus on what were appropriate or maladaptive responses. Understanding the repercussions that a response on either end of this spectrum might have on one's

personal and professional life is beyond the scope of this paper, but is certainly an issue worthy of further exploration.

Conclusion

Previous questionnaire studies have spanned a range of countries, healthcare facilities, working conditions, ages and experience of the respondents. Yet the commonality in the statistics they report is considerable. The correspondence of the findings of this study with the numerical data is predictable in some areas, yet the depth of insight gained from our participants has certainly added to our understanding of this field.

From a methodological standpoint, one-on-one, face-to-face interviews allowed participants to tell their stories, and to be heard in a sensitive, non-judgemental manner. Many had not previously spoken of the events in any kind of formal or informal debriefing, and the interviews provided a forum to describe their experiences and to voice their emotions and opinions. This seemed to be a positive cathartic process.

Participants' narratives revealed a diversity of experiences, needs, personalities, and responses — as individuals and as anaesthetists. Some cases resulted in significant personal and professional impact, while others were remembered solely for the burden of the ensuing paperwork. Amongst the numerous factors that could influence participants' reactions, some were predictable in terms of the distress they caused: the death of a child, a fatal complication in an elective case, negligence, or anaesthetic error. All these factors may be red flags for the individual or colleagues to be alert to the impact the event may have. Other factors, however, may be less obvious, as evidenced by some of these participants' experiences. It is when we do not expect to be affected by the event that our vigilance for signs of our own distress is less, and our insight into the possible manifestations of failed, exhausted or ineffective coping abilities is limited. How much less may our colleagues, observing us from the outside, be aware of our state of mind?

Gazoni *et al.*^{5,8} noted that key factors contributing to the vulnerability of anaesthetists to emotional and psychological distress following a perioperative death include the rarity of such events, the often-solitary nature of anaesthetic practice, and the unlikely provision of post-event support for the anaesthetist. The narratives of participants in our study graphically depict the reality of these factors.

As Aitkenhead¹ suggested, and as is reflected in this study, there exists a significant gap in anaesthetic training on how to handle the aftermath of a perioperative death. This gap provided another motivation for choosing anaesthetic registrars as the sample population in this study. Examining the professional and personal difficulties experienced during the training years provides an indication of the strengths and vulnerabilities we develop and carry forth into our careers as specialists. Identifying key stressors and support needs arising from such adverse events, and addressing these early on in training, may help mitigate some of the stress experienced in our profession.

It is hoped that creating awareness of issues that are not often acknowledged will encourage a more mindful approach when the situation is next encountered, and will see more emphasis being placed on the topic in anaesthetic training.

Limitations of this study include a single centre and relatively small sample size compared with quantitative studies. Inconsistency associated with retrospective self-reporting of events by participants during interviews must also be considered. It is noteworthy that previous studies were all from developed countries. The experience of South African trainees may differ significantly from these centres with regard to working hours and conditions, patient load, amount of trauma seen, hence the sheer number of perioperative deaths experienced. Thus, the transferability of findings from a South African context to training centres in other parts of the world is uncertain. The question of whether our participants' responses illustrate a universal human experience independent of culture or context warrants further study.

Other areas that merit further study include effective and deleterious coping strategies; the effect of mentorship and structured debriefing after adverse events; and a comparative study between registrars in different years of training, and consultant anaesthetists, examining responses and coping mechanisms at various stages in their careers.

Smith²⁰ wrote of 'possibly damaging experiences' in anaesthesia. Perioperative deaths are one of these experiences. This study has sought to make the experience more understandable, with the hope of helping to make it less damaging to trainees, future anaesthetists and their patients. As remarked by one of the study participants:

'I think death should still move us because what is the point of trying to help people if we're not moved by the fact that they're going to die?'

Acknowledgments – The authors acknowledge the contribution of all the participants in this study, the helpful comments of the examiners of the dissertation on which this article is based, and the direction given by the two anonymous reviewers on the journal's editorial board.

References

1. Aitkenhead AR. Anaesthetic disasters : handling the aftermath. *Anaesth.* 1997;52:477–82. <http://dx.doi.org/10.1111/ana.1997.52.issue-5>
2. Bacon AK, Morris RW, Runciman WB, et al. Crisis management during anaesthesia : recovering from a crisis. 2005;14:e25. Available from: qualitysafety.bmj.com
3. Todesco J, Rasic NF, Capstick J. The effect of unanticipated perioperative death on anaesthesiologists. *Can J Anaesth.* 2012;57:361–7.
4. Bauer CE, Stiegler M, Dhillon A. Critical incidents in the perioperative setting: a survey of US Anesthesiologists' Experience in Anesthesiology : American Society of Anesthesiologists (ASA) 2012 Annual Meeting. Los Angeles, CA: UCLA; 2012.
5. Gazoni FM, Amato PE, Malik ZM, et al. The impact of perioperative catastrophes on anesthesiologists. *Anesth Analg.* 2012;114(3):596–603. <http://dx.doi.org/10.1213/ANE.0b013e318227524e>
6. White SM, Akerele O. Anaesthetists' attitudes to intraoperative death. *European Journal of Anaesthesiology.* 2005;22:938–41. <http://dx.doi.org/10.1017/S0265021505001602>
7. McCready S, Russell R. A national survey of support and counselling after maternal death. *Anaesth.* 2009;64(11):1211–7. <http://dx.doi.org/10.1111/ana.2009.64.issue-11>
8. Gazoni FM, Durieux ME, Wells L. Life after death: the aftermath of perioperative catastrophes. *Anesth Analg.* 2008;107:591–600. <http://dx.doi.org/10.1213/ane.0b013e31817a9c77>

9. Association of Anaesthetists of Great Britain and Ireland (AAGBI). Catastrophes in anaesthetic practice — dealing with the aftermath. 2005. Available from: <https://www.aagbi.org/sites/default/files/catastrophes05.pdf>
10. Redinbaugh EM, Sullivan AM, Block SD, et al. Doctors' emotional reactions to recent death of a patient: cross sectional study of hospital doctors. *BMJ* 2003;327:185–91. <http://dx.doi.org/10.1136/bmj.327.7408.185>
11. Anon. Catastrophes in anaesthetic practice. n.d. Available from: <http://www.asa.org.au/static/2/V/e9578706ef595748cfb66285fe07d02a.pdf>
12. Goldstone AR, Callaghan CJ, Mackay J, et al. Should surgeons take a break after an intraoperative death? Attitude survey and outcome evaluation. *BMJ*. 2004;328:379–83. <http://dx.doi.org/10.1136/bmj.37985.371343.EE>
13. Smith IC, Jones MW. Surgeons' attitudes to intraoperative death: questionnaire survey. *BMJ*. 2001;322:896–7. <http://dx.doi.org/10.1136/bmj.322.7291.896>
14. Martin TW, Roy RC. Cause for pause after a perioperative catastrophe. *Anesth Analg*. 2012;114(3):485–7. <http://dx.doi.org/10.1213/ANE.0b013e318214f923>
15. Patton MQ. Qualitative research and evaluation methods. 3rd ed. Thousand Oaks, CA: Sage; 2002.
16. Scott SD, Hirschinger LE, Cox KR, et al. The natural history of recovery for the healthcare provider 'second victim' after adverse patient events. *Qual Saf Health Care*. 2009;18:325–30. <http://dx.doi.org/10.1136/qshc.2009.032870>
17. Rhodes-Kropf J, Carmody SS, Seltzer D. 'This is just too awful; I just can't believe I experienced that...': medical students' reactions to their 'most memorable' patient death. *Acad Med*. 2005;80(7):634–40. <http://dx.doi.org/10.1097/00001888-200507000-00005>
18. Lundgren C. The impaired anaesthetist - is this a problem in South Africa? *SAJAA*. 2007;13(1):7–8.
19. Sonnentag S. Burnout research: Adding an off-work and day-level perspective The views expressed in Work & Stress Commentaries are those of the author(s), and do not necessarily represent those of any other person or organization, or of the journal. *Work & Stress*. 2005;19(3):271–5. <http://dx.doi.org/10.1080/02678370500386473>
20. Smith AF. Reaching the parts that are hard to reach: expanding the scope of professional education in anaesthesia. *Br J Anaesth*. 2007;99(4):453–6. <http://dx.doi.org/10.1093/bja/aem234>

Received: 23-06-2016 Accepted: 18-01-2017