DOI: https://doi.org/10.5114/ait.2022.113278

Advice for doctors working or planning to work in intensive care: summation from a qualitative study

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Anaesthesiol Intensive Ther 2022; 54, 1: 85–90

Dear Editor,

Healthcare personnel who work for prolonged periods in highly stressful environments are susceptible to the effects of these stressors and the cumulative nature of their exposure. The term 'burnout' has been coined to describe a constellation of symptoms related to work, organisational and personal issues occurring in individuals with no prior history [1]. Burnout has been described as particularly prevalent in the critical care setting [2–4]; it affects not only the health and wellbeing of those individuals experiencing the deleterious consequences, but also the quality of the care they provide [1]. There is significant literature that supports the worthiness of mentorship [5–7] throughout medical training. Following on from our paper exploring the behavioural responses of intensivists to stressors encountered working in the intensive care environment [8], the aim of this study was to elicit the advice senior intensivists might offer others on dealing with the stresses of a career in intensive care.

This study was conducted at three sites, in two countries between September and October 2018. Participants were intensivists who had more than four years of experience working in the intensive care unit (ICU) setting. The trial was registered in the Australia New Zealand Clinical Trials Registry ACTRN 12619001314112. Ethical approval was granted by Sir Charles Gairdner Hospital HREC (Lead site: RGS0794); the Austin Hospital (HREC/18/OTHER/14); and Hadassah University Hospital (0313-18HMO). An example of a question pertaining to data reported was: "If you could travel back in time and talk to a younger version of yourself, what sort of advice would you give yourself about the stressors of working in intensive care and the manner in which you might prepare for and manage them, in order to maintain a positive state of mental wellbeing?"

The responses were audio-recorded and transcribed. A codebook was developed and agreed upon by two investigators (DD and RK) across a sample of the transcripts using NVivo software (Version 12, 2018 software; QRS Pty Ltd., Victoria, Australia). All transcripts were then independently coded by two investigators (DD, RK, CK or PVvH) using a framework analysis methodology [9] with any newly identified codes subsequently explored in all transcripts retrospectively by one investigator (DD). Common themes were then recognised, discussed and agreed upon by all investigators, and verbatim quotations were selected to support thematic choices.

Nineteen participants (Australian, n = 13; Israeli, n = 6) contributed to the dataset and five themes of advice emerged from data analysis (see Tables 1–5). These concerned prevention of error; preparation of self; the nature of the workplace; responses to emergency situations; and management

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of emotional responses. Uncaptured in the objective results outlined was the tone and manner with which the intensivists engaged in the interview process. The advice provided by the senior intensivists was, in the opinion of the interviewers, given in a wistful and pragmatic manner. There seemed to be a genuine effort to help guide and help junior colleagues in their careers by imparting useful information.

The senior intensivists advised that "prevention is better than cure" and one way to achieve this was "to know your subject and your job well", so mistakes are not made from ignorance about circumstance or lack of clinical knowledge. Attention to detail and being prescriptive and vigilant in communicating were seen to be important in a workplace where teamwork was viewed as essential. There was no room for the assumption that everyone knows what the team-leader wants or means, and establishing routines for everyday work practices, with explicit expectations for each team member, was important. Having "healthy scepticism", with advice to check and verify everything rather than rely on the opinion or word of others was imperative. This gathering of facts, although burdensome, offered comfort and reassurance that details pertaining to the patients were correct.

Self-belief and belief in the ICU team's collective capabilities were important. Acknowledging individual fallibility and the inevitability that, despite best efforts, there will be errors and adverse events was also vital, along with an awareness of the emotional impact of the work. Choosing a well-suited mentor and role model may provide a valuable example of how to behave and cope. Coping strategies included such things as recognition of fatigue; not making rash decisions while fatigued; separating work and private life; not carrying over problems from one domain to the other; and finding coping strategies, such as physical activity and mental strategies. Some emotional coping skills were also recognized as being very important, such as forgiveness (both of oneself and others), in order to release ourselves from the burden of conflict or the consequences of an adverse event. Bringing kindness into the work environment, towards ourselves, colleagues and patients, can go a long way to reducing tension in a stressful workplace.

The nature of the workplace needs acknowledgement and perspective was important. Sometimes bad things happen because of systemic problems in the institution [10]. The intensivist-in-training should guard against apportioning blame and passing judgement too quickly and/or too harshly – either on themselves or their colleagues – as this is not conducive to the investigation, clarification and learning that can come from an incident. Taking overall responsibility and shared ownership for the quality of care and patient welfare provided was seen as an essential skill. The verbatim quotes listed in the Tables 1–5 provide excellent examples and illustrations of this above distilled advice.

Although investigators agreed that data saturation was met within the sample, the main limitation of this study was that it provides a snapshot of the opinions of only a small group of intensive care doctors, and only those working in two countries. It fol-

TABLE 1. Theme 1: Prevention better than cure

Sub-theme	Verbatim quote
Being prescriptive	'When someone overheard me talking to a registrar, overnight about a particular thing, and for want of a better term they said it sounded like an autistic monologue repeated twice. So I tend to overly state the point. That's the first thing. I try to stop that. But overly stating the point is the first thing. And in that sort of… I usually am fairly prescriptive. It's a bit of self-protection. For example, if I've got an unwell patient here, when I go around on the night before, on the evening before I'm about to be on call, I'll often be very prescriptive about what I'd like to happen. And that's, 1) so everyone's got a clear plan of steps, and 2) I can put in my little things about things I don't want to be done – so 'stay-out-of-trouble-type' things. And the third thing is that it protects me from getting repeated calls about stuff overnight – about, "should I put the PEEP up? or the FiO_2?". So I'm very prescriptive… so everyone laughs at me but… umm… and I think that I do it… that's all part of trying to prevent other people making mistakes which I've made before, or I've seen before, if that makes sense?'
Adverse events	'I think I would advise myself that its core business [dealing with adverse events]. We, I think too often, think that all we're doing is mopping up adverse events in the ICU. But we can cause and also therefore prevent a lot more. And it's too easy because our patients are really sick to gloss over minor adverse events because the patient was already in a tough spot and it's just tough for an extra day because a little bit went wrong. It's too easy to say. So I think I'd go back and say… like that is one of the key things… preventing these adverse events happening.'
Establishing routines	'I try to go through with my junior guys and teach them to be as thorough as they can to make sure that they don't miss something. And that means having *pro forma* is in their own head. I was just talking to a lot of the guys in the corridor about the structure that I have when I have finished seeing a patient. About starting with the patient from the top of the head and going down to the heels just working through every single body system and saying with the nurse and with my team, saying "This is what our issues are here; this is how we're dealing with it", so sharing the communication and the same mental model so that everyone is on the same line, but were also going through things in a systematic way so we don't miss something. So I try and ingrain that in them.'
Attention to detail in the workplace	'I should maybe point to myself that I maybe should be a little bit obsessive, more obsessive. I think I became more obsessive with time because I found out that every tiny detail is important.'

TABLE 1. Cont.

Healthy scepticism	'One of the things that I teach registrars… one of the sceptical thing of Greek traditions going back, is to be sceptical of both others and what they say to you. Not in a disrespectful way, but to question what they say. But the most important person to be sceptical of, is yourself. Because you have a bigger blind spot than you can possibly know, and so be sceptical of what you think and always be prepared to think that although that's the way you see it and you're probably right, but what if? What if that's not quite the way things are?'
Keeping current	'Information gathering is very important. I try to make it important. Particularly as I get on, and new things occur; if there's anything that comes up. If I think, "Yes I don't know much about that", I look that up, as soon as possible, to be up to date, just so I don't just make assumptions, and keep on top of the game. I'm always moving around, I can't sit in my office.'
Having self-awareness and knowing your own limitations	'Speaking up, but also having the confidence to say "I'm not comfortable at this point in time". So recognising one's limitations and being comfortable to admit that you have limitations. You know, we've all got limitations. I run patients past my senor consultants when I need to… "What do you think about this? This is what I'm thinking…". So I think that's important.'
Investing in the team and in workplace relationships	'Meetings of the intensive care [group] outside of the hospital; going to a restaurant to celebrate something. Like one of the nurses is leaving to go somewhere better, to celebrate it. And this is, meeting the colleagues, the professional colleagues outside of the ICU setting is stress relieving, [it] suddenly shows you the other possibilities and you take it back with you to the ICU. You carry it back with you and you take it to a better relationship inside the ICU. So I think one of the stress relievers is the support that you feel inside the ICU, and if you have good relations with your nurses, with your colleagues, it's something that can help. You might not feel that threatened when you make a mistake. You know that the nurse was your friend when you were in the restaurant and speaking about other things in your life, and that you can trust them, so that when you do make a mistake they will support you. Even though you made a mistake, he was still there for you. I know in the same way, I will be for there for most, if not all, of my nurses, probably Fellows and probably juniors that are in inside the unit. And this is building a relationship inside the microcosm of the ICU. It is something that can relieve a part of the emotional stress – the very high emotional stress – that you can develop from the mistakes. If the relationship is bad, when somebody makes a mistake, it will explode, because there will be only blame. So doing social activities outside of the ICU and bonding of the team is important.'

TABLE 2. Theme 2: Preparation of self

Sub-theme	Verbatim quote
Self-confidence; self-belief; self-worth	'Believing that you are worth what you are worth. And that what people tell you relates to them. It's what they believe it's what they think. It's what they want to believe, that's how they manage, that's how they deal with things, but it's not necessarily the fact that will determine your worth. So if you go to an exam, the exam will determine whether you pass or fail. So life is like that. You can't just convince yourself "I'm the greatest" and then fail your exams and say, "Well they were stupid". Obviously, you have to prove yourself. But on the way to becoming the professional that you eventually become, you always need to have a seed that believes that you have reached that point because you are worth it. Because otherwise you go up and down from top to bottom and, burden, that's a lot of burden. I would have told a younger version of myself that this manager you had, if he wasn't pleased with something I did, or if I failed where he would have succeeded, it didn't mean that I was worthless. I wanted to receive from him the recognition that I was something, but it can't be based on what someone says to you. There may be other things going on – he may have been upset about something else, and he takes it out on you. You end up spending so much time and energy on building your self-esteem – especially women…'
Develop an awareness of the emotional impact of the job	'Accepting that they [adverse events] do have a big impact. That you are going to feel very stressed and upset. Somewhat being forewarned is forearmed; that while this has happened, you know this is going to have this impact on me. I think that, in itself, is helpful.
Finding mentors in the workplace	'I would say that each person should try to align themselves with a senior person whom they are similar to. Try and work together with them. Again, someone with similar thoughts to them, so that they feel comfortable to speak to, to have a mentor, for want of a better word. It's an incredibly important thing. Maybe people need to be assigned a specific mentor. Although it may not work out if they are not the same personality. I know that myself and my boss are the same personality, we have the same or similar personalities, we have similar outlooks on patient care and I've learned a lot by watching her work. I think having a mentor is vital. Having a mentor not just practically, but also for learning how to handle situations.'
Find your own coping strategies	'The other thing is to have something, I don't know if it is spiritual, or emotional, or psychological, but something, that belongs to you. Something that you believe in, that you do for yourself, either by yourself or with other people. Something that allows you to connect to your inner feelings or soul or whatever, and that makes you for better within yourself. Everybody has to figure it out for themselves. You don't need a lot of time. As I am not religious, I do not go to the synagogue or pray, so it took me a long time to find this place where I connect with my inner self, and I listen to what my inner self has to say. But I think it is important that people find this. It is very personal, but everyone finds their own way. You need to attach to your inner self, to connect with it, otherwise these voices, they eat you from inside… they eat you from inside.'
Consider how to manage fatigue	'We all know your coping skills get smacked by fatigue…'

TABLE 2. Cont.

Sub-theme	Verbatim quote
Compartmentalising; separating professional and personal life	'I think that if you are going to work in an area of acute medicine then I think you have to appreciate and be rational about it. Compartmentalising things a bit, and not letting things that happen at work affect your life outside of work. You have to let go of it. I think that surgeons are very good at it. They can be a bit… they can be a bit unemotional. Which I think is good in many ways.'
Learning to be assertive	'What advice would I give myself in the role of prevention? I think just earlier and more assertive communication in all aspects of care.'
Learning kindness	'If there was one thing you want to say, I think I would say that you've got to be kind. You've got to be kind to yourself; you've got to be kind to patients; you've got to be kind to family; you've got to be kind to colleagues; to be kind to nurses. You've got to think the best of them, you have got to be you know generous and kind. You know like, "the milk of human kindness". If you're trying to be tough and you're trying to be macho, you are trying to be smart; and trying to be astute; and you're trying to be knowledgeable; and you're trying to do all of the trials; you're trying to spout out…; that isn't really going to sell it.'
Acknowledging fallibility versus invincibility	'Perhaps just being a bit more self-aware; being a bit more self-aware that you are fallible; that you will make mistakes. I mentioned the word hubris before, and I think it's real. Particularly if you've done intensive care for a while. You think you've seen most things, you think you can anticipate most things, you think you've got a handle on most things, and that you can read most things and you find yourself in that sort of space. And yes, there is truth to that. With experience, you've got some very good mechanisms, you know? But you can too easily think you are infallible. You know, "It won't happen to me, it happens to them, that's not me, there've always been shortcuts and it won't happen to me". And I think probably the most important thing I've learned is fallibility, and being aware of it.'
Permissioning vulnerability	'I think that doctors need to be aware that they are humans and I think that is something that doctors need to be taught, and that we… Something that we discussed previously… We don't have to have that cold face, "we are all fine". There needs to be a space in the unit where we can break down and show our emotions. There needs to be that. And there needs to be a framework in the unit to allow it to happen.'
Learning forgiveness	'You know forgive yourself, forgive others. We're all human and I think, as I say to people, you don't, the young doctors, you do the ward round, I say, "I know, that in the last 24 hours, I have made about 5 to 10 mistakes. You just haven't picked them. But I have, I know I have. I can sit here and torture myself over them, I will try to do better next time, and I hope I will fail better. But that's what's going to happen." And so you've got to ask yourself why you wouldn't want to do that. Why you wouldn't want to fail better every time. Knowing that you will fail again, you got to be kind to other people. Of course that doesn't mean that people can do whatever they want and all that sort of stuff, it's just a disposition.'
Understanding the legalities	'I think probably, explicit advice about what you need to do from a medicolegal point of view. Because as a trainee, you don't know that stuff, that stuff is not taught. And certainly that's one of the things that I had to go and ask people.'
Finding anchors outside of medicine	'In terms of personal things, I would tell myself that you need to make time, you need to maintain your circuit breaker. Whether that be sport, your family, a hobby. Non-medical friends to kind of break out of that circuit that can happen, particularly in the ICU when you are stuck in here – you're not walking around the wards, things like that. So I think that's really important and I would tell myself.'
Investing in relationships outside of medicine	'And don't ever forget or abuse your family. 'Abuse' as in, take them for granted – your family. Because I think without them, many intensivists and particularly… well this is about me… Would fall into a very deep dark hole very quickly, and not have the resources to get out.'

TABLE 3. Theme 3: Acknowledging the nature of the workplace

Sub-theme	Verbatim quote
Inevitability of adverse events, mistakes and deaths	'I tend to rationalise it by saying, "Look, there are complications with any procedure, and if you do enough of them you will have complications from those procedures." That as long as you can confidently say that you are... that you are current, that you have currency in terms of being able to perform that procedure safely and that you've done… that you got enough experience… that complications will occur, and that is not necessarily anyone's fault, it's just a… just a probability.'
Maintaining a balanced perspective	'We do good things, we do lots of good things, and we have to acknowledge the good things. So I had to work on myself to internalise the positive reactions that we received from patients and families in parallel to this. The other thing is that I had to ask myself , "Is the unit a good unit?"; "Are the doctors good doctors?"; "Are we doing our practices okay?"; "Were they right in what they said?" And I have to question myself. I looked around and I looked at the practices and I had to regain my confidence that this unit is a fantastic unit. And it deals with patients at the end of their stretch, and there's nothing more we can do.'
Acknowledging the lack of control	'Sometimes as an intensivist, you can do everything right and the patient still dies. In much the same way, sometimes mistakes are made, and despite them, patients still live. The intensivist doesn't hold all of the power in their hands – much of the time, survival comes from within the patient themselves.'
Acknowledging you are not alone, or the first	'I know that all of my seniors and all of my attendings… that they also make mistakes, and they also have their 'bag of patients' that they caused harm or damage [to] because they made decisions… I know that they have it also. I know I'm not the only one.'
Acknowledging systemic responsibility	'I think people need to begin to realise that they are part of a big system. They are part of a big team. When things go bad, it's not all your fault. You can't take it all on yourself. If an issue goes downhill, it doesn't mean it's all your fault…. So it's like that whole Swiss cheese thing. You know, you have to go through a lot of mistakes for bad things to happen.'

TABLE 4. Theme 4: Strategies to respond to real-time emergent situations within the workplace

Sub-theme	Verbatim quote
Clinical considerations	'A common theme I've encountered is not attending to the patient as appropriately as their severity of disease would dictate. So either a cursory review or no review… matching clinical acuity to your clinical response, and working out how to do that.' 'I would tell myself to integrate the whole clinical picture beyond just the end-of-bed-o-gram.'
Delegate	'So I would say… to role delegate, not to try to do everything yourself. Because I think standing at the end of the bed versus trying to assist with getting lines in or something when someone is struggling, that amount of time that you're losing is important. So I would tell myself to do that will more.' 'The senior registrars feel that I am fairly relaxed about things, but that's probably just my demeanour, and they asked me how I stay in that frame of mind, and… I guess it is important that you have to use your brain as well, as, you know anyone can stand there and just run through algorithms. But the important thing is that you need to stand there, taking all the visual cues in and all the things are happening, think about other things, and the team is good, the team will run a resus without you doing anything, so trying to get them to have that ability to step away a little bit, but at the same time delegate tasks. And I think that it has taken me a while to get better at delegation, that's something that I try to teach my registrars.'

TABLE 5. Theme 5: Managing the emotional responses in the aftermath of adverse events, mistakes and deaths

Sub-theme	Verbatim quote
Blame	'Not to be too harsh on yourself. And accept that these things will occur, and when they occur, do your best to salvage the situation. And sometimes things happen that don't necessarily, aren't necessarily someone's fault.' 'I tend to be quite objective about things, not so much subjective. So I tend to rationalise why things go wrong. My philosophy is that medical science is not perfect and therefore, ah, complications will occur and not necessarily due to anyone's fault, that's my overall philosophy, and that's my attitude towards colleagues as well.'
Passing judgement	'I think doctors are very self-judgemental. And to be less hard on yourself is probably a useful thing. To recognise that mistakes happen, or adverse events happen, maybe not mistakes. Which may or may not be related to what you have done, even if you have done everything right, it's still going to happen. You are going to be in unfortunate situations where you come on and something else has happened or is presented to you after it has happened. And so I think, I think, to be less judgemental of yourself.' 'I think it's also… I've been aware of this the last two years, it is also as a profession, I think we should be trying to be less judgemental of others. I think ICUs are very much about "that surgeon did this"; "that person did that", "and now we've got to bail them out." And I don't think that that is a healthy long-term sort of attitude to take. And so I think I've been more… It's difficult, but I have tried to be more aware of being more just accepting. My job is to be here to help whoever, and if I can… You need to be critical where it is appropriate, but try to leave the value-based judgements at the door, and just accept and respond I think would be the keys to that.'
Learning from mistakes and introducing positive changes	'I think that doctors have to evolve from the point of not being able to even think about making a mistake –"I will never make a mistake". They start making decisions that may lead to a mistake because they need to learn, they start performing procedures and they cause complications, because that's the way procedures work. And then I think we have to learn that it's okay (it's not okay) but it's okay to make the wrong decision or to practise your skills until you're very good at them, and to take into account that is not okay to make a mistake but it's part of your work. If you don't do procedures you don't have complications, but if you want to do procedures, you will have complications. And I see for myself and all of my colleagues, especially the youngsters, that the first, the second, the third mistake is a catastrophe. You want to die. You want to disappear. And then you need to realise that it's part of your progression. It's part of your evolvement and it's not a sterile environment.'
Honesty and disclosure	'Exposing it is making you a little bit weak, open to criticism. Other people may think that you are not so intelligent or excellent as they thought. You take that risk. But I think I see today, taking that risk is profitable because maybe it takes a little bit out of this bag on your shoulder, sharing it.'
Seeking support	'I think I'd like to see… maybe even a policy within the ICU that says that, "If this happens you need to come and see the head of the department or talk to one of the senior members in the department, and, come and just have a chat." And make sure that it's available in a completely non-threatening and confidential environment, so that somebody can feel free to come and talk.'
Acknowledging the importance of time as a healer	'Everything seems worse when it has just happened. Being able to take a bit of time to break things down and think about the steps and, you know, how we can look at things.'

lows that other themes of advice may have emerged from a wider intensivist sample. A career in intensive care is not an easy one. Intensivists need to learn how to manage and prevent errors, stressful work environments and the sequelae of physical and mental exhaustion without burnout. It behoves up-and-coming intensivists to learn from the advice afforded by senior colleagues who have successfully navigated a career in the specialty.

Their advice is eloquently illustrated in the tables attached to this paper.

ACKNOWLEDGEMENTS

1. Sources of funding: This work was supported by a grant from the Raine Medical Research Foundation (2018 Cockell Grant).
2. Conflicts of interest: none.

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