Medical error

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Medical Error

Medical error is an increasingly topical issue[1] and could be said to be the failed processes of medical practice that leads to adverse outcomes. Studies in the USA have shown that medical error is the 8th most common cause of death.[2,3]

The most common causes of medical error are:- administration of the wrong medication or wrong dose of the correct medication, using the wrong route of administration, giving a treatment to the wrong patient or at the wrong time.[4] Frequent examples of medical error include the amputation of the wrong limb, incorrect dose of a medication leading to patient death and anaesthetic error such as non dilution of solutions used in theatre.[5]

From the practitioners perspective, medical error is associated with a range of catastrophic personal consequences. These include loss of face, public humiliation[6], possible loss of their job, law suits and personal injury suits. In contrast to these fears, many doctors believe that they never personally make mistakes, or that they are never allowed to make mistakes. Also, practitioners may believe that mistakes are only made by others. A patient's chance of an error in treatment occurring in a hospital setting is 3%[7] With this number increasing the longer the patient stays in hospital

Interestingly there is no association between the rate of medical error and malpractice suits. Post mortem (PM) studies reveal interesting data. As PM studies decrease, so patient safety is compromised because error detection decreases. This suggests that postmortem examinations together with traditional M&M (morbidity and mortality) meetings play a significant role in education and thus risk reduction.

Risk

No one is immune from error. Anaesthetists used to have a high rate of error and so they instituted special safety regulations and so brought down their rates.[8] A parallel exists with the discipline of aviation medicine.[9,10] Surgeons are often quoted in regard to medical mishaps, perhaps because their mistakes are more obvious. There are however other high risk groups. Inexperienced clinicians and trainees, as well as clinicians using new techniques are at risk. An important and under estimated risk is fatigue, particularly in the light of the hours worked by certain disciplines. Poorly trained clinicians are an obvious high risk group. Emergency departments too are at risk as they deal with acutely ill patients with time limitations. Emergency departments are also usually working without long term knowledge of patients and outside of an established clinical relationship.

Error identification

The identification of error is a critical area. Errors are often under reported because of the gravity of the consequences.[11] It is useful to look at the dysfunctional elements of the system rather than blame an individual. The November 1999 US Institute for Medicine report stated that "to err is human."[12] In that report, errors were listed statistically and the resultant costs were estimated. This resulted in politicians becoming involved and

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systems of reporting set in place.

There is an ethical obligation to disclose and report an error when it occurs.[13,14] By having a systematic approach, it allows you to look at conditions under which individuals work.[15] This allows us to distinguish between active failures and latent conditions. An active failure can be equated with an unsafe act, while a latent condition reflects pathology within the system. Examples of this would include understaffing and fatigue. By identifying these we can remedy them through pro-active risk management.[16]

Adverse drug events are a common error and have been extensively studied because they are so prevalent and preventable.[17,18,19] A common example of an agent with a high liability for adverse events is lithium. Factors involved in this include patient consultation, where issues relating to education and counseling regarding factors such as expected adverse events, compliance and monitoring are at issue.[14,20] Errors regarding prescription, administration and dosing problems are frequent. Drug interactions as a result of inattention to other drugs prescribed is a not uncommon issue.[21]

Error analysis

Error analysis is an area that is of increasing relevance.[22,23] It is necessary to develop an atmosphere of safe reporting of error. It is necessary to study all incidents in the context of the working environment and the wider organisational context. By doing so you will be able to develop strategies to enhance patient safety.

It is necessary to look for patterns and chains of events.[24,25] One should be able to answer questions related to whether an individual member of staff requires extra training, revision of clinical protocols, extent of workload and possible environmental factors affecting the situation.

How to avoid medical error

There are a number of steps that can be taken to avoid errors. Firstly it is essential to avoid denial.[7] We need to accept that errors can and do occur. Accurate and complete record keeping is essential.[26,27,28] It is necessary to decrease ones reliance on memory, which is unreliable especially with the passing of time. Increased access to information regarding both the clinical case in question as well as to the disease under treatment is a valuable defense. Standardisation of procedures assists in training and avoids idiosyncratic practices that increase risk. Attention to standards of training as well as later continuing professional development is a valuable risk reduction strategy. Effective team work can lead to error reduction.

Conclusion

Perhaps the most important issue in this situation is honesty. Attempting to hide mistakes exacerbates the problem. When confronted by an apologising doctor, patients and their families can be very forgiving, especially when steps are taken to remedy the situation. In contrast, an avoidant and defensive stance by the practitioner increases the likelihood of antagonizing the victim or their family and further inflaming the situation.[29] It is necessary to look for solutions and then take steps to safeguard the system to prevent recurrence.

References

1. Wu A. Medical Error: the second victim. BMJ 2000; 320: 726-727.
2. Leape LL, Benwick DM. Safe Health care: are we up to it? BMJ 2000; 320: 725-726.
3. Smith R, Hatt H, Benwick D. Shaed ethical principles for everybody in health care: a working draft from the Tavistock Group. BMJ 1999; 318: 248-51.
4. Reinerten JL. Let's talk about error. BMJ 2000; 320:730.
5. Singer PA. Medical ethics. BMJ 2000; 321: 282-85.
6. O'Leary DS. Accreditations role in reducing medical errors. BMJ 2000; 320: 727-8.
7. Cohen MR. Why error reporting systems should be voluntary. BMJ 2000; 320: 728-9.
8. Bates DW, Cullen D et al. Incidence of adverse drug events and potential adverse drug events: implications for prevention. JAMA 1995; 274: 29-34.
9. Brennan TA, Leape LL et al. Incidence of adverse events and negligence in hospitalized pts: results of the Harvard medical practice study. I N Engl J Med 1991; 324: 370-6.
10. Andrews L B, Stocking C et al. An alternative strategy for studying adverse events in medical care. Lancet 1997; 349: 309-13.
11. Classen DC, Pestotnik S L et al. Adverse drug events in hospitalized patients: excess length of stay, extra costs and attributable mortality. JAM 1997; 277: 301-6.
12. Bates DW Spell N et al The cost of adverse drug events in hospitalized patients. JAM 1997; 277: 307-11.
13. Thomas EJ and Brennan TA. Incidence and types of preventable adverse events in elderly patients: population based review of medical records. BMJ 2000; 320: 741-44.
14. Sexton JB Thomas EJ et al. Error, stress and teamwork in medicine and aviation: cross sectional surveys. BMJ 2000; 320: 745-49.
15. Barach P and Small SD. Reporting and preventing medical mishaps: lessons from non-medical near miss reporting systems. BMJ 2000; 320: 759-63.
16. Vincent C, Taylor-Adams S et al. How to investigate and analyse clinical incidents: Clinical risk Unit and association of litigation and risk management protocol. BMJ 2000; 320: 777-81.
17. Reason J. Human Error: models and management. BMJ 2000; 320: 768-70.
18. Nolan J W. System changes to improve patient safely. BMJ 2000; 320: 771-73.
19. Weingart SN, Wilson RM et al Epidemiology of medical error. BMJ 2000; 320: 774-77.
20. Helmreicle RL. On error management: lessons from aviation. BMJ 2000; 320: 781-85.
21. Gaba DM Anesthesiology as a model for patient safety in health care. BMJ 2000; 320: 785-88.
22. Bates D W. Using information technology to reduce rates of medication errors in hospitals. BMJ 2000; 320: 788-91.
23. Cook RI, Render M and Woods DD. Gaps in the continuity of care and progress on patient safety. BMJ 2000; 320: 791-94.
24. Putno DA, Shyaritz LJ et al Detecting and reporting medical errors: why the dilemma. BMJ 2000; 320: 794-96.
25. Hofer TJ, Kerr EA. What is an error? Eff Clin Pract 2000; 3(6): 261-9.
26. Steven ID. Malpass A et al: Towards safer drug use in general practice. J Qual Clin Pract 1999; 19 (1): 47-50.
27. Bates DW. Frequency, consequences and prevention of adverse drug events. J Qual Clin Pract 1999; 19 (1): 13-17.
28. Runciman WB, Helps SC et al. A classification for incidents and accidents in the health care system. J Qual Clin Pract 1998; 18 (3): 199-211.
29. Brennan TA, Leape LL et al. Incidence of adverse events and negligence in hospitalised patients: results of the Harvard medical practice study. N England J Med. 1991; 324: 370-376.

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COMMENTARY

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The Concise Oxford Dictionary[1] defines error as 'a mistake', 'the condition of being wrong in conduct or judgement'. Vorster and Berk, in a timely article, draw attention to 'medical error' and rightly point out that this is potentially catastrophic to both patient and practitioner. They also indicate that this is an increasingly topical issue supported by their reference to a series on medical error published in the British Medical Journal (BMJ) of March 18, 2000.

Error must be distinguished from negligence which is 'a lack of proper care and attention, carelessness'[1] and from fraud — 'a person or thing not fulfilling what is claimed or expected of it'.[1] In discussing fraud in general practice research Hosie[2] has said '...error is an inevitable consequence of clinical practice...the search for this error is a vital component of good clinical practice...It is only when mistakes are recognised that learning can occur...All our previous medical training has taught us to fear error, as error is associated with blame. This fear may lead to concealment and this is turn can lead to fraud'. How real this fear is!

All of us, during our medical training, have had the maxim 'prevention is better than cure' crammed into us. While most understand this in relation to disease it is clear that this is not true when it comes to preventing events.

For me a particularly important article in the BMJ series is that by Barach and Small.[3] They outline advantages to near miss reporting systems used in non-medical situations such as the aviation industry and nuclear power technology. But they emphasise that there are powerful barriers to reporting medical near misses both for the individual and the organisation including fear of reprisals, lack of trust and litigation. To counteract this Barach and Small[3] suggest incentives including confidentiality, immunity, and the concept that safety saves money.

Yet, in the same BMJ issue there is a wonderful example of a hospital in the United States that communicated openly when a series of errors in the diagnosis of prostate cancer were uncovered.[4] This was to their credit and in spite of inaccurate and inflammatory media reports their community accepted the explanations and assurances of care. As part of the process individual letters were mailed to no less than 88,000 patients to explain what was happening.

In the United States anaesthesiology is acknowledged as the leading medical speciality in addressing issues of patient safety[5]; my personal experience of that branch of clinical practice suggests that the same would be true in South Africa. I am sure that there are other South African academic departments that attempt to reduce error for example by regular mortality and morbidity audits. But...I know of no formal medical error reporting system in South Africa of the type described by Barach and Small[3] — do you?

References

1. The Concise Oxford Dictionary, 8th ed, Oxford: Oxford University Press. 1990.
2. Hosie J. Fraud in general practice research: intention to cheat. In: Lock S, Wells F. Fraud and misconduct in medical research. London: BMJ Publishing Group. 1993:42-50.
3. Barach P, Small SD. Reporting and preventing medical mishaps; lessons from non-medical near miss reporting systems. BMJ 2000;320:759-763.
4. Pietro DA, Shyavitz, Smith RA, Auerbach BS. Detecting and reporting medical errors; why the dilemma? BMJ 2000;320:794-796.
5. Gaba DM. Anaesthesiology as a model for patient safety in health care. BMJ 2000;320:785-788.

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