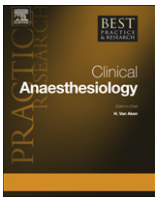
Best Practice & Research Clinical Anaesthesiology 25 (2011) 229–238

Contents lists available at ScienceDirect

Best Practice & Research Clinical Anaesthesiology

journal homepage: www.elsevier.com/locate/bean



11

Safety culture in anaesthesiology: Basic concepts and practical application

Konstantinos Arfanis, Research Fellow [a], Evridiki Fioratou, Research Fellow [b], Andrew Smith, Consultant Anaesthetist and Director [a,*]

[a] Lancaster Patient Safety Research Unit, Royal Lancaster Infirmary, Ashton Road, Lancaster, UK
[b] Industrial Psychology Research Centre, University of Aberdeen, Aberdeen, UK

Keywords:
anaesthesiology
safety management
psychology
social
psychology
industrial
operating rooms

This article starts from a social science viewpoint and reviews the concepts and measurement of safety culture and climate in their original industrial settings and in health care. Typical items measured and generic characteristics of a positive safety culture are described. The role of personality, professional group membership and anaesthesiology-specific knowledge and expertise in shaping notions of risk and safety and safety behaviour are discussed. The difficulties of changing human behaviour are outlined, and the pivotal role which anaesthesiologists can play in promoting a positive safety culture, both individually and within their teams and organisations, is highlighted.

© 2011 Elsevier Ltd. All rights reserved.

Safety culture is defined formally as "the product of individual and group values, attitudes, perceptions, competencies and patterns of behaviour that determine the commitment to, and the style and proficiency of, an organisation's safety management."[1] This formal definition is comprehensive but uninspiring in terms of trying to engage staff or actively promote safety. A less formal but more easily understood definition suggests that culture is "the way we do things round here."[2] As organisations usually feature many levels of activity, the "here" can refer to individuals, work groups/teams, departments and whole organisations.[1] A more controversial but perhaps more realistic definition holds that culture is "what happens when no-one is watching." This definition reinforces the notion that the innate behaviour arising from an individual's personality and temperament is modified by social interaction, and also raises the possibility that safety culture encompasses.

This article will review published work on safety culture outside and within health care from a social science perspective, focussing on the individual and team levels within an organisation.

* Corresponding author. Tel.: +44 1524 583517; Fax: +44 1524 583519.
E-mail address: andrew.f.smith@mbht.nhs.uk (A. Smith).

1521-6896/$ – see front matter © 2011 Elsevier Ltd. All rights reserved.
doi:10.1016/j.bpa.2011.01.006

It is important to make the distinction between safety culture and safety climate. Safety climate can be regarded as the visible, 'surface' features of the underlying safety culture and there are a number of quantitative tools for its measurement. Zohar[3] used the term 'safety climate' in his investigation of safety in Israeli manufacturing and defined it as "a summary of molar perceptions that employees share about their work environment." There is now considerable debate as to the definition and differentiation of the terms 'safety culture' and 'safety climate',[4] and despite distinct etymologies they are often used interchangeably.[5] Cox and Cox[6] compared culture to personality, which is generally more pervasive and stable, and climate to mood, which is subject to short-term fluctuations. Consistent with this notion, Denison[7] argued that the methods used by researchers could aid in distinguishing between studies that measured culture from those that measured climate. He stated that culture must be measured by qualitative methods, whereas climate can be measured by quantitative methods because techniques, such as questionnaire surveys, cannot fully represent the underlying safety culture. Thus, Mearns et al.[8] proposed that safety climate is a more appropriate term for questionnaire-based surveys, as these are only capable of sensing transient, surface features discerned from the workforce's perceptions of and attitudes to safety at a given point in time – a snapshot of the prevailing safety culture. However, other research approaches are needed to understand the underlying features of safety culture itself. For instance, perceptions of risk and safety vary not only from individual to individual but also from group to group. Does 'safety culture' mean something different for the anaesthesiologist, the surgeon, the nurse and a hospital cleaner? We will examine these approaches also and then relate what is known about safety culture with respect to the practice of anaesthesiology.

Safety culture concepts in industrial settings

The safety culture and practice of high-reliability industries, such as nuclear power, aviation and air-traffic control, can provide valuable insights into improving safety in health care.[9] These other industries take a systematic approach to managing safety, are particularly aware of the human factors contributing to poor safety and are placing equal emphasis on the contribution of the humans, who manage the organisation, as well as the humans operating the system, to ensure safety.[10,11]

Perrow[12] proposed that accidents are 'normal' in a complex socio–technical system, such as a nuclear power plant. In such hazardous industries, social and cultural processes and technology interact in ways that can result in unpredictable modes of failure. He argued that, under such conditions, an accident should be considered a normal and indeed, expected, outcome of these complex interactions, and a relative lack of accidents is probably an exceptional state. Systems should be designed not only to anticipate hazards before they escalate into accidents but also to appropriately respond to these accidents when they do occur.

This view of accident management contrasts with that which prevails in health care. As Leape et al.[13] suggest, the health-care system relies on the error-free performance of individuals. In industry, human error is considered an unavoidable part of the system, and thus efforts are made to improve the system, which may contain latent conditions that predispose to accidents.[14] Latent conditions in health care may relate to the working conditions, such as heavy workloads, inadequate supervision, lack of training, a stressful environment and inadequate systems of communication.[15] These have only recently begun to receive attention, where the shift from individual factors as the source of accidents towards organisational factors such as safety climate is very welcome.[16] The latent predisposing conditions are influenced by the underlying safety culture: it has been shown that a weak safety culture has contributed to organisational accidents, such as the Piper Alpha oil platform[17] and the Columbia Space Shuttle,[18] but also in health-care accidents, such as in paediatric heart surgery[19] and fatal drug errors.[20]

Several studies have discussed the factor structure of the safety climate within certain industrial settings,[21–23] focussing on a multinational grain company, manufacturing and maintenance engineers in aviation, respectively. Management commitment and supervisor practices seem to be important determinants of safety climate. Further, there seemed to be a link between safety climate and aviation maintenance errors,[23] which was also borne out in a later study of accidents in transportation workers.[24]

Download English Version:

https://daneshyari.com/en/article/2748760

Download Persian Version:

https://daneshyari.com/article/2748760

Daneshyari.com