CORRESPONDENCE

Prevalence and predictors of work related respiratory symptoms in workers exposed to organic dusts

EDITOR—We read with interest the recent article by Simpson *et al.*¹ describing the prevalence of respiratory symptoms, including ODTs, in an array of workplaces. In particular, this paper suggested that there was a dose-response relation between exposure to endotoxins or dust, and the subsequent reporting of lower respiratory tract symptoms, although the dose-response was only suggested across type of industry, rather than within each work group.

We have also found a high correlation between total inhalable dust and exposure to endotoxins in a small group of hemp workers, where it also seemed that total inhalable protein was correlated with both endotoxins and total dust exposure. We suggest that it may be interesting to attempt to divorce the effects of total dust and exposure to endotoxin, as the correlation between them was not perfect. This additional analysis may provide more information to help those responsible for controlling workplace exposures.

Furthermore, we were intrigued to see that the analysis relating to the presence of symptoms of the lower respiratory tract related to work included a history of bronchitis or a history of asthma as independent variables. Have the authors considered rerunning this analysis, by omitting these two symptom categories from the list of potential predictive variables. This may give a more accurate reflection of the importance of the individual variables of exposure alone on the development of respiratory disease.

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- 1 Simpson JCG, Niven RM, Pickering CAC, *et al.* Prevalence and predictors of work related respiratory symptoms in workers exposed to organic dusts. *Occup Environ Med* 1998;55:668-72.

Authors' reply—We thank Fishwick and Curran for their comments and are interested in the findings in hemp workers. The relation between exposure to dust or endotoxins and symptoms of the lower respiratory tract related to work presented in the paper was indeed across the cohort as a whole. The numbers of workers studied and the varied exposures even within the individual industries did not allow for a full assessment of the relation within specific groups of industries. However for seven of the nine industries (the exceptions were mushroom cultivation and weaving where the lowest exposures to dust and endotoxin were found), those reporting work related symptoms of the lower respiratory tract had higher mean exposures compared with those who did not report symptoms. These differences were not significant partly because of the small sample within each industry and the large variation of exposure measures even within specific industries.

It is possible and of interest to postulate that above a certain exposure threshold (greater than that found in weaving or mushroom cultivation), as well as there being a relation across cohorts between increasing exposures and symptoms, that one may also exist within individual industries. We did not do this in the paper for fear of overinterpreting the non-significant observations made.

As pointed out in the paper, the correlation between total dust and endotoxin is not perfect, but it is close. Statistical attempts were made to separate their effects, but this proved impossible to do with any degree of confidence. We point out that the hygiene data are presented and discussed in more detail in an article currently in press in the *Annals of Occupational Hygiene*. With regard to the issue of whether a history of bronchitis and asthma diagnosed by a physician should be included as independent variables into the analysis, this was considered most carefully. We are aware of Fishwick's specific interest in this area from his own research thesis. On balance, we thought that their inclusion could provide valuable information about the effects of using people with existing respiratory disease, when there is subsequent exposure to dust and endotoxin. The downside to this is whether they may interact with other variables in the regression model—such as individual symptoms of the lower respiratory tract related to work and make the model unstable. There was no evidence to suggest this during the statistical process. However, we have not completed a full reanalysis at this stage, but would be willing to discuss this with Fishwick and Curran and to compare the findings with repeated analysis of their own epidemiological data sets, to determine the appropriateness or otherwise of the inclusion of pre-existing diagnosis into a regression model.

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BOOK REVIEWS

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Work related upper limb disorders: recognition and management.

By: MICHAEL A HUTSON. (Pp 149; £35.00) 1997. Oxford: Butterworth Heinemann. ISBN: 0 7506 2719 0.

This is a clinician's book which has much to interest occupational physicians, although it may be more used by rheumatologists, orthopaedic surgeons, and other specialists. Three

main themes underlie the content. These are the role of neuropathic pain mechanisms in non-specific disorders with diffuse pain in the upper limbs (repetitive strain injury, here referred to as type II), the need for a systematic and detailed clinical examination for complaints of the upper limbs, and the introduction of osteopathic concepts and techniques into the medical examination. The initial chapters cover the history of the clinical presentation of pain in the upper limbs, starting with Ramazzini's "scrivener's palsy", and the development of the concepts which surround its interpretation, both by patients and doctors. Abnormal illness behaviour is regarded as a sign of distress and not considered to result from "non-organic" pain or somatisation. In a chapter on referred pain the nature and features of trigger points and tender points are described leading into an account of the phenomena of peripheral and central neural sensitisation, processes which are now thought to be essential for the explanation of chronic pain syndromes. Osteopathic concepts, specifically "somatic dysfunction" are also introduced into this discussion and subsequently several references are made to details of osteopathic examination. For the non-osteopath this must be taken at face value. The description of the clinical examination of the upper limbs and neck, and of the discrete (type I) disorders of the upper limbs and their management is comprehensive and can be considered to form the core of the book. These are clear and useful and merit a wide readership. Separate chapters review type II disorders (from the perspective of the ground already covered) and medicolegal considerations. Although the strength of this book is its clinical content, the occupational and preventive aspects, including the brief chapter on ergonomics, are weak by comparison. The author builds on his experience of sports medicine and other musculoskeletal problems. Throughout, there is more emphasis on white collar than blue collar occupations and vulnerability is regarded as contributing to aetiology, although contemporary evidence of the role of psychosocial factors in musculoskeletal disorders is not fully considered. On many occasions personal opinion is presented, and sometimes, such as when it is stated that scapular pain is almost endemic in some occupations, elaboration would have been welcome. Also, a more complete index would have helped the reader to relate to the less familiar concepts and terms, particularly as these are commonly introduced before they have been fully explained. Despite these shortcomings this is, overall, a welcome contribution to the scientific literature which collects a wide range of clinically relevant material on upper limb disorders under one cover. Although there is a limit in the ability of text alone to influence medical practice this book could do much to improve the assessment of workers with painful upper limbs. At 150 pages it is short, and deserves to be read in full, although its price may deter some.

RON MCCAIG

Occupational health, 4th edition.

By: HARRINGTON J M, GILL F S, AW T C, GARDINER K. (Pp 423; £) 1998. Oxford: Blackwell Science. ISBN 0 632 04832 8.

Occupational health (pocket consultant) is a popular book aimed at a wide range of occupational health practitioners as a core

text, revision aid, and quick reference guide. The 4th edition has been extensively revised and updated with two additional authors and as a result has had to expand. At over 400 pages, it is now stretching the pocket size; perhaps desk-top would be more appropriate. Its principal foci are those of occupational health and occupational hygiene and it therefore covers a sizeable proportion of the examination syllabus for association of the Faculty of Occupational Medicine, but is lacking detail on environmental issues, food safety, and travel and expatriate health which would also be useful to other readers. However, as an introductory text or quick reference it is clear and concise with a useful list of addresses and contacts for further information. The content is as up to date as such a text can be in a changing medical, legal, and regulatory world.

Overall the format is similar to the last edition, but with clearer section indexes and layout. Significant emphasis is made of issues of prevention and the multidisciplinary approach to occupational health practice. As well as the core chapters covering occupational diseases and the disciplines of occupational hygiene, there are new special sections covering law, audit, and access to information, with the expanding topic of psychological problems in the workplace meriting its own chapter. For easier reference, the law section would benefit from having more detail of the content of the "six pack" regulations although they are briefly referenced elsewhere in the text. The chemicals, gases, dusts, and particles chapter remains an excellent précis of the occurrence, properties, uses, metabolism, health effects, monitoring, and treatment for the most important or commonly encountered substances.

In summary, the book remains the best concise reference guide for occupational health students and practitioners, and is excellent value for money.

S J MITCHELL

Occupational stress: a practical approach. Edited by: KEN ADDLEY (Pp 335; Price £35.00) 1997. Oxford: Butterworth-Heinemann. ISBN 0 7506 2948 7.

There are many publications on the subject of occupational stress and many of them which are not strictly academic or scientific tend to be somewhat repetitive in content and style. At first sight, this book seems to cover familiar ground and in fact does so in chapters 1 and 2 which deal with well rehearsed subjects—such as the recognition and causes of stress, different coping strategies, and potential health effects. These chapters are, however, a necessary precursor to subsequent discussion of less familiar topics—such as the current United Kingdom legal position and the implications of the wider European legislative framework. The legal aspects of this subject have rarely been brought together so comprehensively or in such a readily accessible form. As such they provide the reader with a wealth of practical information on these issues.

A further chapter entitled the *Trade union perspective* to some extent tends to cover much of the same ground in terms of causes and effects of stress, employers' duties, and employees' rights. However, more interestingly this section also contains the results of a union survey on occupational stress and some practical pointers to preventative measures.

A specific topic of much current concern, post-traumatic stress disorder, is covered in chapter 4. Its position in the book, lying between *Legal aspects* and the *Trade union perspective*, is somewhat curious. However, apart from this, it is an excellent section dealing authoritatively with issues of definition and diagnosis, and with current approaches to management and treatment. Also included are little explored aspects—such as the possible precursors of the condition and the implications for prevention.

Perhaps the most novel aspects of this book are contained in the final two chapters. The first of these describes a discussion in which a panel of professionals concerned with different aspects of working life express their views on a range of stress related issues, presented as answers to a series of specific questions. This is a lively and effective way of representing the differing perspectives of, for example, the occupational physician, the personnel manager, the trade union representative, and the occupational psychologist. It is further supplemented by a series of case studies, which are used to good effect throughout the book to illustrate theoretical points. The last chapter, as its title *Practical aspects* implies, provides an essentially practical guide to the management and prevention of work related stress, drawing extensively on the contents of previous sections. Detailed advice is given on each aspect of policy development with numerous examples. This is supplemented by actual assessment tools contained in the appendices and by the contents of a slide presentation designed for a stress awareness seminar. As such, this section will provide the reader with a great deal that is directly applicable to their own situation.

Overall therefore, this book fully justifies its claim to present a practical approach. It is written in a straightforward non-technical style, and will be of considerable assistance to a wide range of health and safety professionals charged with tackling this difficult problem.

ANNE SPURGEON

The burnout companion to study and practice: a critical analysis. Edited by: WILMAR SCHAUFELI, DIRK ENZMANN. (Pp 220; Price £19.95) 1998. Basingstoke, Hampshire, UK: Taylor and Francis. ISBN 0 7484 0697 2 (hardback), 0 7484 0698 0 (paperback).

The term burnout to describe a particular psychological response to prolonged stress was first coined in the 1970s and has since achieved a measure of popularity among those particularly concerned with occupa-

tional stress. It is not, however, universally accepted. Indeed it is viewed with a certain amount of scepticism by many academic researchers who question its theoretical underpinning and the validity of supporting empirical data. As the authors of this book note, its enthusiastic adoption by the popular press and other sections of the media has tended to generate further unease among the scientific community. Much has been written about burnout but this is perhaps the first book to bring together all aspects, under one cover, providing, as Maslach notes in the forward, a source for "what has ever been said or studied" about the subject. The organisation and structure of the book is excellent with a logical progression from discussion of definitions, assessment and prevalence to causes and consequences, and finally to intervention and management.

Chapters 1 and 2 are concerned with the background and development of the concept, and questions of definition. This is perhaps the least substantial section of the book in terms of actual evidence with perhaps too much reference to unsupported opinion about the symptoms which define the condition and its potential overlap with other syndromes. However, the next two chapters contain a wealth of empirical data and thorough discussion of the strengths and weaknesses of this in relation to establishing prevalence, causes, and consequences. This is followed by a chapter which considers the theoretical perspectives concluding with a model which the authors think best fits the available empirical data. By contrast chapter 6 is much more practically oriented discussing in some detail various approaches to intervention, with clear exposition of some of the more popular individually based treatments. Although undoubtedly informative and useful, this section again raises questions about the validity of burnout as a syndrome which can be reliably differentiated from other responses to stress, not only in terms of its diagnosis but also its treatment. This issue and others are raised once more in the final chapter, in which the authors present a summary of their current position in this field and their view on future research priorities.

The style of this book is lively and non-technical with, where necessary, clear explanation of concepts requiring more specialist knowledge. There is a strong impression throughout that the authors are enthusiastic proponents of burnout as an entity. Despite their stated aim of producing a critical analysis their interpretation of some of the reported evidence is sometimes questionable. Nevertheless, readers will find here a thorough discussion of all the important issues in this field as well as practical guidance on assessment, management, and intervention. For those occupational health and safety professionals who have found the concept of burnout useful and relevant therefore, this will be an invaluable source book.

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