Occupational Medicine Content Of Oregon Family Physician Practices

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Background: **Little has been published in the medical literature about the occupational medicine content of family practice. Little is known about the educational interventions needed for family physicians to improve the care they provide to patients suffering from occupational-related disorders.**

Methods: **A questionnaire based on a curriculum in occupational medicine proposed by a subcommittee of the Education Committee of the American Academy of Family Physicians for the guidance of family practice residency directors was sent to a random sample of 100 Oregon family physicians from a total of approximately 570 active practicing members of the Oregon Academy of Family Physicians. Ninety-three completed questionnaires were returned.**

Results: **Occupational medicine constituted a significant part (14 percent) of the practices of Oregon family physicians. The respondents rated management of chronic disability, disability determination, repetitive trauma disorders, and legal issues as the most important occupational medicine problems in their practices. These issues were also those about which they thought they needed additional training.**

Conclusions: **Education in occupational medicine for family physicians must be better tailored to fit their needs and their priorities. The responses to this survey of practicing family physicians in Oregon suggest that more training in the areas of chronic disability management, disability determination, the management of repetitive trauma disorders, and legal aspects of occupational disorders is needed. (J Am Board Fam Pract 1995;8:300-4.)**

In the United States there is a severe shortage of physicians who have had formal training in occupational medicine.[1,2] Consequently, most patients with occupational injuries or illnesses do not receive medical care from physicians who have had such training. It is estimated that 70 percent receive care initially from primary care physicians,[3] 40 percent from family physicians, who make decisions about diagnosis, management, and the appropriateness of work restriction more often than any other specialist.[4]

Information about the occupational medicine content of the practices of family physicians is lacking. A computerized search of the medical literature (MEDLINE) found one publication on the subject,[5] which reported the results of a survey of all physicians in a city of 49,000 with a strong industrial base. Nineteen of 25 family physicians in the city responded. They reported seeing an average of 2.5 patients per week with work-related problems and twice that number with work-affected conditions. The study did not further investigate the medical aspects of the problems.

A subcommittee of the Education Committee of the American Academy of Family Physicians (AAFP) developed a curriculum in occupational medicine for family practice residencies in 1983 and revised it in 1990.[6] No survey of family physicians was conducted by the committee to determine the occupational medicine problems that family physicians see most frequently or what education in occupational medicine they believed they most needed.

The range and scope of the problems presented by occupational disease demonstrate the need for a generalist's perspective.[7] When occupational injuries, which constitute 90 percent of all industrial insurance claims[8] are included, it would seem that of the generalists, family physicians, with their broadly based training, including surgery and orthopedics, would be well prepared to meet the challenge of occupational medicine.

In practice they do not seem well prepared. Family physicians frequently miss the diagnosis of occupational disease.[9-11] Cherkin, et al.[12] have shown that most family physicians do not feel

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adequately prepared to manage low back pain, a frequent and expensive cause of prolonged disability.[13]

Prevention is the essence of occupational health, yet it is given scant attention in the medical literature or in actual practice. No mention of occupational health was made in a recently published commentary on the US Preventive Services Task Force Guide to Clinical Preventive Services.[14]

Excessive paperwork, delayed payment, and nonpayment for time-consuming administrative and preventive services characterize the workers' compensation system. Family physicians often lack understanding of the legal and ethical issues in occupational health.[1]

The goal of this study was to determine the occupational medicine content of the practices of family physicians in Oregon and to survey the educational priorities of these physicians so as to structure a course in occupational medicine responsive to their needs.

Methods

A questionnaire based on the curriculum developed by the AAFP[6] was sent to 100 randomly selected, actively practicing members of the Oregon Academy of Family Physicians in early 1991.

The AAFP residency curriculum was formatted into 18 components (Table 1). Physicians were asked to designate which components were very important, somewhat important, and not important within their practices; to record the three components they dealt with most frequently; and to choose the three components about which they most needed to know more. The rank order of importance of each component was determined by arbitrarily awarding two points if the component was regarded as very important and one point if it was regarded as somewhat important. The components dealt with most frequently in practice were ranked by counting the absolute number of times each was recorded by the participating physicians. The rank order of the components about which physicians needed to know more was determined similarly by calculating the percentage of physician respondents selecting each component.

Respondents were asked also what aspects of occupational health had been omitted from the questionnaire, what problems they had incorporating occupational health into their practices, and what percentage of their time was spent on work-related health problems.

Table 1. Components of the Curriculum in Occupational Medicine of the American Academy of Family Physicians.*

Preplacement physical examinations
Periodic occupational health assessments
History of occupational medicine
Ethics and occupational health
Management of chronic disability
Disability determination
Occupational disease — basic concepts
Occupational diseases (by organ system)
Acute trauma
Repetitive trauma disorders
Occupational stress
Occupational exposures
Occupation-related psychosocial problems
The role of other occupational health professionals
Epidemiology of occupational diseases
Workplace hazards — identification and remediation
Legal issues — workers' compensation, NIOSH, OSHA
Industrial relations — unions and management

*From the American Academy of Family Physicians.[6]
NIOSH — National Institute of Occupational Safety and Health.
OSHA — Occupational Safety and Health Administration.

Results

The response rate to the survey was 93 percent. Mailings were supplemented by telephone reminders to nonresponders after 4 weeks.

Table 2 shows the six most important components, ranked by the number of points allotted. The six components most frequently mentioned are detailed in Table 3 by the total number of times each was recorded. The top six components about which physicians needed to know more are listed in Table 4.

Of the issues omitted from the questionnaire, respondents noted the following: distinguishing malingerers from the genuinely injured, return-to-work issues, reimbursement, workplace drug testing, work and pregnancy, prevention of occupational injury, and rehabilitation.

Administrative problems (time-consuming paperwork, responding to multiple agencies) were the greatest obstacles to incorporating occupational health into physicians' practices.

Table 2. Most Important Occupational Medicine Issues in Practice as Selected by Respondents (Ranked by Summed Scores).

Issue	Total Score*
Management of chronic disability	153
Repetitive trauma disorders	148
Acute trauma	142
Disability determination	131
Legal issues — workers' compensation, NIOSH, OSHA	121
Occupational disease — basic concepts	120

*2 points if "very important."
1 point if "somewhat important."
NIOSH — National Institute of Occupational Safety and Health.
OSHA — Occupational Safety and Health Administration.

Other issues emphasized were fitting emergencies into an already tight schedule, disagreements between the employer or employee and the insurance companies with the physician in the middle, relating illness complaints to occupation, being reimbursed for the extra responsibilities involved in caring for the disabled worker, time-consuming malingerers, and the lack of opportunity to contact and discuss problems with employers.

The mean percentage of time that physicians dealt with occupational health problems in their practices was 14 percent (median, 9 percent); 70 percent of the respondents estimated that occupational health problems occupied 10 percent or less of their time.

Discussion

The results of this questionnaire reflect the reality of occupational medicine as it appears in Oregon family practices. Management of chronic disability was regarded as highest in importance among all components of the occupational medicine curriculum. Family physicians recognized the important role they have to play in care of these patients but expressed their discomfort with this responsibility, as shown by the finding that "disability determination" (Table 4) topped the list of components about which they most needed to know more, followed immediately by "management of chronic disability." Many individual comments reflected the frustration that physicians felt, because their difficulties in dealing with these disabled patients were compounded by problems within the workers' compensation system.

Repetitive trauma also was prominent both in importance and in the physicians' perceived need for further education. This interest reflects the growing number of these disorders,[8] and the physicians' desire to know more about their diagnoses, management, and prevention. Musculoskeletal problems in general were high on the list of the components that were most important, most frequently seen, and most needing further study by family physicians.

The importance given to learning more about legal issues could reflect the physicians' desire to be more knowledgeable about and more efficient within the workers' compensation system. In the survey conducted by Merrill, et al.,[5] administrative paperwork and unfamiliarity with workers' compensation law were the two concerns about occupational cases most frequently mentioned by the respondents. The legal aspects of the workers' compensation system that affect the provision of medical care must be included in postgraduate courses. More recent legislation, such as the Americans with Disabilities Act, also has an impact on the practice of family physicians by emphasizing the importance of properly conducted preplacement physical examinations[15] in determining the employability of disadvantaged workers.

Prevention is an important element of occupational medicine, yet it was not an aspect of care emphasized by this cohort of family physicians. Physicians' knowledge of the work setting is a prerequisite for preventive services. In a survey of 55 physicians in a manufacturing community, of whom 25 were family physicians, only 12 had a formal relationship with any employer, and only

Table 3. Occupational Medicine Issues Dealt with Most Frequently by Respondents.

Issue	Total Score*
Acute trauma	63
Management of chronic disability	54
Repetitive trauma disorders	51
Disability determination	33
Preplacement physical examinations	22
Occupational stress	10

*Number of times recorded.

Table 4. The Top Six Issues Chosen by Responding Physicians about Which More Knowledge Needed.

Issue	Percentage of Physicians Choosing
Disability determination	43
Management of chronic disability	38
Legal issues — workers' compensation NIOSH, OSHA	37
Repetitive trauma disorders	30
Occupational exposures	29
Workplace hazards — identification and remediation	17

NIOSH — National Institute of Occupational Safety and Health.
OSHA — Occupational Safety and Health Administration.

5 had visited the work site.[5] The obstacles to efficient communication with the work site were revealed. These important issues need to be addressed in the content of occupational medicine courses for family physicians so they learn to facilitate preventive strategies.

The relative lack of importance attached to occupational exposures and to basic concepts of occupational diseases can be explained in various ways. Teaching about occupational health issues is grossly deficient in many US medical schools. Just less than one-half have no formal curriculum in occupational health, and those that do require a median of only 4 hours of instruction.[16] As a consequence, physicians might be underestimating the impact of occupational disease in their patient populations.[17] It is well documented that physicians seldom consider occupation-related causes in patients complaining of undifferentiated symptoms[9-11] and as a consequence fail to recognize them, paradoxically reinforcing their belief that occupational disease is relatively unimportant. Family physicians might also believe that the investigation and management of occupational disease belong in the occupational health specialist's field.

Family physicians must be taught to question patients routinely about occupational exposures and to refer those in whom occupational exposures are suspected. Discussion of the importance of environmental as well as occupational exposures in postgraduate courses will encourage family physicians to question patients routinely about exposures when they have undifferentiated complaints. It is unrealistic to expect family physicians to embark on extensive investigations of environmental and occupational exposures. In-depth knowledge will be unnecessary for them if reliable sources for referral are available. Changes in the medical education system are being initiated to improve the supply of physicians trained in occupational medicine who could act as such sources.[18]

Many postgraduate courses in occupational medicine for family physicians are offered by occupational health academicians who lack information about the educational needs and priorities of family physicians in practice. The mix of cases seen in academic occupational and environmental medicine clinics[19,20] differs markedly from that seen in family practice. In academic clinics asbestosis and asbestos-induced pleural thickening were the most frequently encountered conditions, followed by occupation-related respiratory diseases (upper airway irritation, bronchitis, and asthma) and noise-induced hearing loss. The mix of cases seen in the academic environment should not deflect attention from the educational priorities of family physicians.

The results of our survey show that disability determination and the prevention of disability must be emphasized in future courses in occupational medicine for family physicians. Family physicians could play an important, perhaps indispensable role in disability management and prevention if they had the skills to do so. Management and prevention of repetitive trauma also must be emphasized. Postgraduate courses in occupational medicine that emphasize the above issues will go far toward meeting the educational priorities of family physicians that they themselves have recognized.

References

1. Role of the primary care physician in occupational and environmental medicine. Washington, DC: National Academy Press, 1988.
2. Castorina JS, Rosenstock L. Physician shortage in occupational and environmental medicine. Ann Intern Med 1990; 113:983-6.
3. Surveillance of occupational injuries treated in hospital emergency rooms — United States. MMWR 1983; 32:89-90.
4. Markham J. Occupational medicine: new interface for family medicine? Can Fam Physician 1989; 35:2279-82.
5. Merrill RN, Pransky G, Hathaway J, Scott D. Illness and the workplace: a study of physicians and employers. J Fam Pract 1990; 31:55-8.

6. Recommended core curriculum guidelines in occupational medicine for family practice residencies. Kansas City, MO: American Academy of Family Physicians, 1984 (AAFP Reprint #266).
7. Cullen MR. Occupational medicine. A new focus for general internal medicine. Ann Intern Med; 145:511-5.
8. Occupational injuries and illnesses in the United States by industry, 1992. Washington, DC: US Dept. of Labor, Bureau of Labor Statistics, 1993.
9. Felton JS. The occupational history: a neglected area in the clinical history. J Fam Pract 1980; 11: 33-9.
10. LaDou J. Occupational medicine. Norwalk, CT: Appleton & Lange, 1990.
11. Coye MJ, Rosenstock LR. The occupational health history in a family practice setting. Am Fam Physician 1983; 28:229-34.
12. Cherkin DC, MacCornack FA, Berg AO. Managing low back pain — a comparison of the beliefs and behaviors of family physicians and chiropractors. West J Med 1988; 149:475-80.
13. Webster BS, Snook SH. The cost of compensable low back pain. J Occup Med 1990; 32:13-5.
14. Frame PS. Clinical prevention in primary care — the time is now. J Fam Pract 1989; 29:150-2.
15. Shepherd J. Preemployment examination: how useful? J Am Board Fam Pract 1992; 5:617-21.
16. Sokas RK, Cloeren M. Occupational health and clinical training. J Occup Med 1987; 27:414-6.
17. Stein EC, Franks P. Patient and physician perspectives of work-related illness in family practice. J Fam Pract 1985; 20:561-5.
18. Parchman ML, DeHart R. A combined family practice and occupational medicine residency program. Fam Med 1993; 25:249-52.
19. Rosenstock L, Daniell W, Barnhardt S, Stover B, Castorina J, Mason SE, et al. The ten-year experience of an academically affiliated occupational and environmental medicine clinic. West J Med 1992; 157:425-9.
20. Cullen MR, Cherniack MG. Spectrum of occupational disease in an academic hospital-based referral center in Connecticut from 1979 to 1987. Arch Intern Med 1989; 149:1621-6.