

Occupational Issues in Episodic Care Populations

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Background Much care for non-emergency problems is provided at “episodic care” settings (e.g., urgent care and emergency room).

Methods Ninety-four subjects, without known occupational disease, who were seeking care for a chronic or sub-acute problem in an episodic care location, were interviewed to assess the frequency and types of occupational health concerns. They were asked whether work probably “caused” or “made worse” their illness and whether their illness “made work difficult.”

Results Categorized hierarchically, 20% reported causation, 15% worsening, and 15% interference of illness with work. (Each was categorized in one category only). Only 50% reported absence of a workplace-health interaction. One-third reported that workplace changes could improve their functional status. Nevertheless, workplace factors were discussed only 21% of the time in physician-patient encounters.

Conclusions This study suggests that occupational health issues are frequent in episodic care settings and that the definition of occupational health issues should be broadened to include “made worse” and “illness makes work difficult” as well as the traditional workplace causation definition. Further, episodic care settings present unique opportunities for prevention. Am. J. Ind. Med. 43:221–226, 2003. © 2003 Wiley-Liss, Inc.

KEY WORDS: episodic care; urgent care center; occupational disease; workplace accommodation; work causation

INTRODUCTION

Work forms an important part of many people’s lives, yet attention to occupational health in many clinical setting aspects is limited. Traditionally, occupational medicine has emphasized detection of work caused illness/injury or screening for work caused illness. Most surveillance systems

are oriented to the enumeration of disease/injury caused by work. This study addressed a broader array of interactions among patients who were not explicitly seeking care for occupationally caused diseases.

“Episodic care” settings provide a considerable volume of health care services. Such settings include urgent care centers and emergency rooms. In addition to treatment for acute injury/disease, patients often receive care for chronic conditions in such settings [Auerbach, 1994; Plauth and Pearson, 1998; Krakau and Hassler, 1999; O’Brien et al., 1999]. In this study, we evaluated the frequency of occupational health issues in a population seeking episodic care.

METHODS

The study was conducted as part of the Distributed Occupational Knowledge System (DOKS) research project. This project evaluates potential benefits of providing computer-assisted case-specific educational suggestions at clinical encounters. In the overall project, an intelligent

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database/artificial intelligence system is being developed to provide situation specific questions and advice [Harber et al., 2000] to the clinical practice on occupation issues. The appropriate question or advice is selected based upon specific facts about the individual's job history, clinical findings, and stated concerns. We hypothesize that although a computer system is unlikely to be as effective as a fully trained occupational medicine specialist, it may provide incremental benefit when such expertise is unavailable. Therefore, this project focuses on service delivery settings other than those of board-certified occupational medicine specialists.

The current report includes patients who sought care in the Medical Walk-In Clinic, an urgent care clinic at Olive View-UCLA Medical Center (OVMC), one of five Los Angeles County public hospitals. OVMC primarily serves the medically uninsured residents of the San Fernando Valley and Santa Clarita Valley area within Los Angeles County. Although, OVMC is affiliated with numerous neighborhood primary care clinics, it is common for its patients to receive "episodic care" in the urgent care setting, rather than care from a designated continuing care physician. Many of these patients consider the Medical Walk-In Clinic to be a source of medical care for non-acute conditions.

As part of the preliminary data collection in the overall DOKS project, subjects were asked a series of selected questions by research team members based upon their conditions. Subjects were eligible if they were seeking care in the urgent care setting, were between 21 and 65 years of age, spoke English or Spanish, and had worked outside the home for income sometime during the past five years. Each potential subject was provided an explanation of the project and gave an oral assent to participate. Subjects were interviewed in Spanish or English as appropriate. Subjects were not included if their medical problem was of short duration (e.g., less than a week), thereby emphasizing more chronic conditions among patients seeking episodic care.

The questions described herein were selected from a large bank of questions available for the computer-assisted interviews. The questions forming the basis of this report were asked of all subjects, although other highly case-specific questions were generated for individual subjects. Subjects were interviewed within a few minutes of conclusion of their clinical visit.

Subjects were asked about several classes of work-health interactions: (1) "Caused": Work probably caused illness or injury; (2) "Worsened": Although work did not cause the injury or illness, it "made it worse;" (3) "Job Difficult": The medical condition, while not caused or worsened by work, made performing the job more difficult (i.e., the health condition adversely impacted work ability in the specific job).

The data were recorded on written forms without personal identifiers. Subsequently, responses were coded using the Standard Occupational Classification system. Data were

managed using Microsoft Access, and statistical analyses were performed with SAS for Windows (2000 SAS Institute Inc., Cary, NC). Categorical data were analyzed using chi-square methods.

RESULTS

Table IA describes the characteristics of the population. Most (64 of 94) were currently working on either a full or part-time basis. Men and women did not differ in likelihood of being currently employed. Table IB shows that types of jobs held was affected by gender. No women did construction work, whereas 41% were in domestic service occupations. Table IC shows the types of health problems encountered stratified by gender. Of the 94 encounters, 6 were for injuries, 24 were for internal medicine problems other than respiratory, 22 were for musculoskeletal skeletal, and 14 were for respiratory related problems.

Table IIA describes the self-stated impact of work. Data in the table are derived from information about the current (or, if not currently working, most recent) job. The table shows that there were occupationally related issues in approximately 50% of the subjects, even though they were recruited from a non-occupational health care setting. Each of the questions about work impact (none, caused, worsened, difficult) was asked independently, but for analysis purposes, responses were coded hierarchically, so that an individual fell into only a single category: caused > worsened > difficult > none. For example, if an illness was indicated as "caused" and "difficult," it was coded in the table as "caused."

In Table IIB, results are shown based upon current work status. Those who were currently working were more likely to report no work-health effects (56%) than those who were not currently working (37%, $P < 0.01$). However, if they did have an effect, then it was likely to fall into the category of interference (made difficult) of their health problem with performance of work.

Table IIIA summarizes data about whether changes at work could improve functional status (i.e., make it easier to work despite the health problem). Approximately one third of subjects felt that changes at work would improve their work ability (accommodation). Women were more likely to report this than men ($P < 0.05$). The difference between those currently working and those not working was not statistically significant (Table IIIB).

Table IV describes the impact of work-health interactions upon work activities. Ten individuals changed their job (Table IVA), and three changed tasks within the job (Table IVB) because of some type of work-health interaction.

Communication with the physician is summarized in Table V. Only twenty encounters were reported to include discussion of work with the physician (Table VA). However, many subjects expressed a desire to discuss occupational factors with the physician: 46 of 94 subjects, nearly 50%, felt

TABLE I. Characteristics of Patients Seeking Episodic Care

Current work status	Male n (%)	Female n (%)	Total n (%)	
A. Work status				
Working full time	20 (57)	22 (37)	42 (45)	$\chi^2 = 3.54; df = 2; P = N.S.$
Working part time	6 (26)	16 (36)	22 (32)	
Not working	9 (17)	21 (27)	30 (23)	
B. Job class by gender				
Administrative	0 (0)	7 (12)	7 (7)	$\chi^2 = 37.23; df = 5; P < 0.0001$
Construction	7 (20)	0 (0)	7 (7)	
Domestic	2 (6)	24 (41)	26 (28)	
Mechanical	7 (20)	2 (3)	9 (10)	
Production/factory	3 (9)	12 (20)	15 (16)	
Service	16 (46)	14 (24)	30 (32)	
C. Health problem class by gender				
Dermatological	1 (3)	2 (3)	3 (3)	$\chi^2 = 3.14; df = 8; P = N.S.$
Diabetes mellitus	4 (11)	4 (7)	8 (9)	
Hypertension	2 (6)	9 (15)	11 (12)	
Injury	3 (9)	3 (5)	6 (6)	
Internal medicine	9 (26)	15 (25)	24 (26)	
Musculoskeletal	8 (23)	14 (24)	22 (23)	
Psychiatric	1 (3)	1 (2)	2 (2)	
Respiratory	5 (14)	9 (15)	14 (15)	
Other	2 (6)	2 (3)	4 (4)	

they wanted to do so (Table VB). Table VC shows that 27 people wanted to discuss work with their physician, but did not have the opportunity to do so.

DISCUSSION

Many patients receive their health care in an episodic fashion despite the advantages of stable physician-patient relationships and provision of health care in a continuing care setting. For example, urgent care centers and emergency rooms provide a great deal of care for non-acute problems [Auerbach, 1994; Plauth and Pearson, 1998; Krakau and Hassler, 1999]. Episodic care providers typically focus upon

the immediate problem but do not address longer-term problems or those that are apparently unrelated to the presenting complaint. Although this study was based in a county facility, a similar reliance upon episodic care occurs in private settings as well. A report by Young and colleagues has concluded that most patients seek episodic care in urgent care settings because of worrisome symptoms and non-financial barriers to regular health care [Young et al., 1996]. This has also been seen in Sweden as well as the US [Krakau and Hassler, 1999]. This is consistent with the findings of this study; the problems seen in the study population were not those of acute or traumatic injury for which episodic care in emergency rooms would be logical.

TABLE II. Work-Health Interactions by Gender and Current Work Status

A. By gender	Male n (%)	Female n (%)	Total n (%)	
None	22 (63)	25 (42)	47 (50)	$\chi^2 = 4.32; df = 3; P = N.S.$
Caused	5 (14)	14 (24)	19 (20)	
Worsened	5 (14)	9 (15)	14 (15)	
Made difficult	3 (9)	11 (19)	14 (15)	
B. By current work status	Working n (%)	Not Working n (%)	Total n (%)	
None	36 (56)	11 (37)	47 (50)	$\chi^2 = 12.20; df = 3; P < 0.01$
Caused	7 (11)	12 (40)	19 (20)	
Worsened	9 (14)	5 (17)	14 (15)	
Made difficult	12 (19)	2 (7)	14 (15)	

TABLE III. Changes at Work to Improve Functional Status by Gender and Current Work Status

A. By gender	Male n (%)	Female n (%)	Total n (%)	
Yes	7 (20)	24 (41)	31 (33)	$\chi^2 = 4.25; df = 1; P < 0.05$
No	28 (80)	35 (59)	63 (67)	
B. By current work status	Working n (%)	Not working n (%)	Total n (%)	
Yes	18 (28)	13 (43)	31 (33)	$\chi^2 = 2.14; df = 1; P = N.S.$
No	46 (72)	17 (57)	63 (67)	

Occupational problems are common in this “episodic care” patient population, and they are not limited to disease/injury actually caused by work. The effect of the worksite on worsening existing disease and the interference of illness with the conduct of work are frequently seen. For example, over 10% of subjects changed their job because of health. In addition, patients felt that occupational health did not receive sufficient discussion with their health care provider (e.g., 49% desired such discussion, but it only occurred for 21%).

Many of the subjects felt that changes at work could improve their functional status. They suggested a variety of worksite changes, including administrative controls (such as schedule), change of workload, or exposure control. Thus, accommodation (worksite change to improve work functional status) is a significant issue in patients receiving episodic care.

The current study extends the findings of several prior investigations, which demonstrate that clinicians do not pay sufficient attention to occupational health [Felton, 1980; Schwartz et al., 1991; Milton et al., 1998; Thompson et al., 2000]. The studies have not differentiated the site of care (e.g., continuing care setting vs. episodic care setting).

In addition, this study extends prior work by using a broader definition of “occupational health/work related issue.” The current study suggests that there is inadequate attention to more common problems of exacerbation (worsening) of existing disease and of interference with work due to illness as well as inadequate attention to ascertaining occupational etiologies of disease/injury.

Urgent Care/Emergency Room settings present unique opportunities and challenges. Many persons only receive

care in such settings, and this may be particularly true for those in the “working age” population [Auerbach, 1994; Plauth and Pearson, 1998]. Working may interfere with obtaining continuing care, and episodic care may be the only opportunity to interact with such workers/patients. One study [Plauth and Pearson, 1998] showed that urgent care settings are particularly important for employed persons because work hours may preclude access to continuing care clinicians. The unique access to patient groups has been utilized in other ways; for example, performance of PAP smears [Batal et al., 2000]. This type of practice setting offers an opportunity for intervention because urgent care/emergency medicine centers are frequently familiar with workers compensation processing as they typically deal with acute traumatic and chemically induced work related injuries [Tacci et al., 1998]. Unfortunately, unless explicitly work related, staff members of these centers are unlikely to actively seek occupational health factors. Nevertheless, occupational health issues are at least as common in episodic care as in continuity care settings [Harber and Merz, 2001].

Several options may be considered to facilitate optimizing occupational health care in episodic care settings:

- Improve occupational orientation in episodic care centers: Although episodic care providers (urgent care and emergency medicine) are familiar with workers compensation, the narrow focus of care on the presenting problem, the lack of continuity of care, and the limited reimbursement create barriers to effective intervention. In addition, time constraints can present barriers to

TABLE IV. Impact Upon Work

A. Change job title at work by gender	Male n (%)	Female n (%)	Total n (%)	
Yes	3 (9)	7 (12)	10 (11)	$\chi^2 = 5.35; df = 2; P < 0.10$
No	29 (83)	52 (88)	81 (86)	
Don't know	3 (9)	0 (0)	3 (3)	
B. Change job task at work by gender				
Yes	0 (0)	3 (5)	3 (3)	$\chi^2 = 8.62; df = 2; P < 0.05$
No	31 (89)	56 (95)	87 (93)	
Don't know	4 (11)	0 (0)	4 (4)	

TABLE V. Patient-Physician Communication

A. Discussed work with physician by gender	Male n (%)	Female n (%)	Total n (%)	
Yes	9 (26)	11 (19)	20 (21)	$\chi^2 = 4.39; df = 2; P = N.S.$
No	15 (43)	38 (64)	53 (56)	
Uncertain	11 (31)	10 (17)	21 (22)	
B. Whether patients had the desire to talk about work with physician by gender				
Yes	19 (54)	27 (46)	46 (49)	$\chi^2 = 0.69; df = 2; P = N.S.$
No	12 (34)	25 (42)	37 (39)	
Uncertain	4 (11)	7 (12)	11 (12)	
C. Would like to have discussed work by discussed work with physician				
	Discussed work with physician			
Would have liked to discuss work	Yes	No	Uncertain	
Yes	10	27	9	$\chi^2 = 5.19; df = 4; P = N.S.$
No	7	23	7	
Uncertain	3	3	5	

obtaining service [Harber and Merz, 2001]; time pressure may be greater in episodic care than continuing care settings.

Establish more effective communication with continuing care clinicians. If the episodic care clinician recognizes the possibility of an occupational health factor, this could be communicated to the patients' regular physician [O'Brien et al., 1999]. Unfortunately, many patients seeking care in episodic settings do not have regular clinicians, or their work hours create an access barrier [Plauth and Pearson, 1998].

Create patient expectations: Currently, many patients do not expect their clinician to address their occupational health issues. As shown in Table V, many tolerate inadequate discussion.

Increasing occupational orientation, improving communication, and creating expectations will require explicit planning. Barriers to occupationally oriented preventive services have been reviewed recently [Rudolph et al., 2001]. Computer assisted questionnaires and educational prompts may facilitate this by efficiently acquiring information from patients without requiring extensive clinician time and providing situation specific information to clinicians and patients. In addition, in the future, communication between episodic care and continuity care can be aided by directly incorporating such prompts into the electronic medical record. Furthermore, creating such prompts about the appropriateness of addressing occupational issues in a specific case creates an expectation among patients. More traditional methods are also potentially useful; these include educational programs for clinicians, incorporating occupational health into quality audit procedures, and creating appropriate financial incentives. Since attention to these occupational

health issues may improve worker productivity, employers might potentially exert influence as purchasers of clinical services.

This study was conducted in a single location, but the results are likely to be generalizable. The frequency of findings of responses to our first question dealing with "work caused" disease is concomitant with that seen in several other studies [Thompson et al., 2000]. In comparison to private health care facilities, the Los Angeles County facilities have higher proportions of patients not actively employed, but occupational health issues were also noted by those currently employed (Table IIB). They are more likely to work in "blue-collar" industries than patients in certain other health-care facilities, increasing the likelihood of occupational exposures. Thus, data acquisition from a county facility is unlikely to introduce systematic misestimation.

The study relies upon self-reports, and it is possible that subjects may underestimate or overestimate their occupationally related health component. However, the patients were not from a worker's compensation population, thereby avoiding certain inherent biases of compensation applicants. Similarly, the questions were asked in a non-leading manner, seeking to avoid any subtle biases. In addition, the fact that patients express these concerns is in itself important.

In summary, the study has shown that occupational health issues are very frequent in episodic/urgent care populations. Such populations offer both challenges and opportunities for prevention. This health care setting may provide the only opportunity for interaction of many workers and worksites with health-care professionals. In addition, the high volume of patients makes it likely that frequent occupational health problems may be detected. The definition of "occupationally related" should be broadened to include the full spectrum of interactions of work and health,

not solely focusing upon disease and injury directly caused by work exposures.

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