

Bridging the Gap between Occupational Medicine and Family Medicine

Judy Sng,¹MBBS, Grad Dip Fam Med, MMed (Occup Med), See Muah Lee,¹MBBS, MSc, LLB (Hons), David Koh,¹PhD, FFOM, FFOMI

Abstract

Family medicine and occupational medicine share close similarities in their focus on disease prevention and health promotion. The opportunities for mutual learning and collaboration in patient care abound, with far-reaching implications on the standard of patient care that can be offered. Unfortunately, a gap exists between family medicine and occupational medicine in day-to-day practice as well as in continuing medical education. It is important that we actively seek to bridge this gap. The workforce constitutes a significant part of the population and thus the patient load of a typical primary healthcare practice. Moreover, with an ageing population and rising retirement age, we can expect that there will be an increasing number of health issues to be addressed among older working people. Both occupational and non-occupational factors are important in determining an individual's health. Thus, family physicians need to adequately understand occupational medicine and vice versa.

Ann Acad Med Singapore 2008;37:158-61

Key words: Occupational health, Primary healthcare

Introduction

A significant similarity between family medicine and occupational medicine (OM) is the focus on disease prevention and health promotion. Family medicine aims for primary prevention through health education and personalised care of the family unit. OM practice relates to managing the patient in his work context and seeking to protect the health of workers through good workplace controls and work practices. In its wider view, the patient who consults the occupational physician is a proxy for all his colleagues who experience similar work exposures. The work unit is therefore to the occupational physician what the family unit is to the family physician.

The workforce is a significant part of the population. In June 2006, 76% of the resident population aged 25 to 64 were employed.¹ It is then to be expected that this group of people will form a large proportion of the patient load in a typical general practice clinic.

Many workplaces in Singapore do not have direct access to occupational health services. This is especially true for the small to medium enterprises, which employed 6 out of every 10 workers in Singapore in 2006.²

In general, the primary healthcare provider for workers who fall ill, even when an occupational aetiology is

suspected, is the family physician. Occupational physicians who elect to provide primary healthcare are smaller in number compared to family physicians. The common stated goal of both disciplines, which is to provide holistic care,³ means that basic skills in both must be integrated and acquired by the practitioner. Health surveillance, health promotion, assessing the impact of work on health and the impact of health on work, are some overlapping areas where dual competence is demanded.

Case 1

Mr Tan is a 30-year-old technician who visited his family physician on a Monday morning with typical upper respiratory tract infection symptoms, without fever. He was prescribed a first-generation antihistamine, cough suppressant syrup, lozenges and granted 1 day of sick leave. On Tuesday morning, he sustained a head injury at work requiring treatment at the accident and emergency department.

Case 2

Mr Lim was a 52-year-old furniture factory manager who died of an acute asthmatic attack when he was exposed to diisocyanate vapour at work. His wife had been spray painting some furniture outside the factory, and in this

¹ Department of Community, Occupational and Family Medicine

Yong Loo Lin School of Medicine, National University of Singapore, Singapore

Address for Correspondence: Dr Judy Sng, Department of Community, Occupational and Family Medicine, Yong Loo Lin School of Medicine, National University of Singapore, MD3, 16 Medical Drive, Singapore 117597.

Email: cofjsgk@nus.edu.sg

process the vapour was emitted. The deceased had been seeing his family physician sporadically over the past few months for poorly controlled asthma. A number of his asthmatic attacks had been triggered by exposure to diisocyanate vapour during spray painting.

Case 3

Mr Chua is a 50-year-old bus driver with Type 2 diabetes mellitus requiring treatment with oral medication. The control was not satisfactory and he was referred to an endocrinologist. After being stabilised, he was referred back to the general practitioner (GP) to resume continuing care. Mr Chua is now required to self-administer insulin injections twice a day. The fine balance between achieving optimal HBA1C targets, avoiding long-term complications such as retinopathy, heart disease and nephropathy on the one hand, and disabling and troublesome hypoglycaemia on the other, is a perpetual challenge which has implications on his ability to work.⁴

Case 4

Madam Teo, a 50-year-old lady, worked as a clerk in a large petrochemical company. She suffered from worsening neck and shoulder pain for a few months and consumed all of her allowed medical leave for the year. The occupational physician in her company suspected poor workplace ergonomics to be the cause, and recommended adjustments to her workstation to address her problem. However, her pain improved only slightly and still affected her sleep. On further inquiry, it was found that Madam Teo was stressed out by family issues – her adolescent daughter was growing increasingly rebellious and her elderly mother had been diagnosed with metastatic cancer some months earlier.

Bridging The Gap

Case 1 – The Importance of an Adequate Understanding of the Patient's Work

In this case, the term “technician” could mean anything from a computer repairman to an aircraft serviceman who often has to work at heights of more than 10 metres. The patient in this scenario was actually involved in the servicing and maintenance of commercial aircraft. He had rightly been instructed by the clinic assistant not to take the antihistamine or cough medication if “driving or operating machinery”. However, he did not think it applied to him, since in his work he does neither of the two. Thus, on Tuesday morning, he took his cough and cold medications before going to work. Being drowsy with the sedative side-effects of the antihistamine and cough suppressant, he walked into a protruding metal piece at his workplace and sustained a periorbital contusion-laceration.

In busy family medicine practices, the occupational history is often reduced to only a vague job title, and

sometimes this is even left to the receptionist to ask. Understandably, most family physicians would not have the luxury of time to take a complete occupational history. But as illustrated in Case 1, it is important to adequately understand the nature of the patient's job so that appropriate medications and advice can be provided.

Another area where sufficient understanding of the patient's work is necessary is with regard to medical certificates. Most family medicine practitioners would realise that when they issue medical certificates, they are in fact making a decision on the patient's fitness to work. However, the nature of the patient's work and job requirement is often not really understood or assessed when the medical certificate is filled. One exception might be the assessment for fitness to attend court hearings, which has to be specified in a medical certificate.

Medical certificates are essentially medico-legal documents on a professional evaluation of the patient's fitness to work. Thus, a good appreciation of the patient's work nature is required. This often goes beyond the asking of a job title. Understanding what exactly the patient is required to do is essential before an informed decision on fitness or unfitness to work can be made.

Case 2 – A Preventable Occupational Disease-related Death

The tragedy of this occupational asthma death could have been averted if the link had been made between the patient's work exposure and his asthma exacerbations. On the part of the family physician, there needs to be an index of suspicion regarding the possibility of work factors triggering the asthma attacks. Once the connection has been made, it becomes the responsibility of the occupational physician to establish a causal link between workplace exposure and asthma exacerbation. He would normally assess the patient's serial peak flow measurements on working days and off days to establish that the asthma is work-related. Workplace visits to find out the chemical contents of substances used, work processes and practices are often required to identify the offending agent, in this case diisocyanate. The occupational physician can then implement measures to prevent the patient from any further exposure to the asthmatogen, while the family physician continues to manage and stabilise the patient's clinical condition.

Case 3 – The Impact of Health on Work

The case of the diabetic vocational driver requiring insulin for treatment poses a great challenge for the doctor. There is no doubt that hypoglycaemia, potentially more likely to occur with insulin treatments, represents a real driving hazard.^{5,6} The family physician who organises the care of the patient, together with the occupational physician,

will have to evaluate and manage the risk on an individual basis, paying special attention to the details of the job, the patient's experience of hypoglycaemia and enhance the patient's ability to recognise and manage the safety risks involved. To do this effectively, perhaps more so for the occupational physician than the family physician, updating and upskilling of common clinical conditions like diabetes becomes imperative.

Case 4 – The Importance of Non-occupational Factors

Non-occupational factors play an important role in influencing the health of our workers. This is especially so with work-related diseases such as musculoskeletal disorders and occupational stress, which are very often worsened by stressors from adverse family situations and life events. As seen in this case, Madam Teo's symptoms probably originated more from stress over her family problems and less from workplace ergonomics. Thus, we would need to adequately address both in order to help alleviate her suffering.

The occupational physician may sometimes be too focused on workplace exposures and interventions, and miss out on the non-occupational factors. Family medicine practitioners are generally better equipped to detect and manage patients with problems of living and issues concerning home and lifestyle factors which affect health, and OM practitioners need to learn from them as well as collaborate with them in patient care.

Existing Bridges

Some encouraging attempts are already being made to bridge the divide; for example, the training of many family physicians to be designated factory doctors through the Graduate Diploma in OM course. These physicians are qualified to perform statutory medical examinations for workers exposed to specific workplace hazards such as noise and lead. Currently there are about 700 designated factory doctors in 2000 primary care clinics in Singapore.^{7,8}

Some occupational physicians also practice primary care for company employees as part of their work portfolio. In many countries in the region, the occupational physician acts as the company doctor for designated working communities and is consulted by the workers and their families for all their primary care needs. It is also common for many OM practitioners to have family medicine backgrounds, especially in the United States and the United Kingdom.

Resources Available

OM referral clinics in Singapore are conducted regularly in polyclinics in Jurong, Hougang and Geylang. Patients suspected of having occupational or work-related diseases can be referred for consultation with an occupational

health specialist. There are also specialised occupational dermatology clinics at the National Skin Centre and occupational lung disease clinics at the Singapore General Hospital and Tan Tock Seng Hospital.⁹

For family medicine practitioners who are interested, there are opportunities for further training in occupational and environmental medicine. The part-time Graduate Diploma in OM course provides a good overview of OM and stimulates doctors to appreciate about how much occupational health issues there really are in family medicine practice.

OM practitioners who provide primary care in the workplace would need to have a good understanding of important family medicine issues, especially in the continuing care of workers with chronic diseases such as diabetes, hypertension, ischaemic heart disease and asthma. The Ministry of Health regularly disseminates updated clinical practice guidelines for the management of common diseases in Singapore.¹⁰

Challenges and Needs

The Significance of our Ageing Population and Workforce

The number of resident workers in Singapore aged 65 and over has risen steadily from 17,800 in 1991 to 44,400 in 2006.¹¹ This number is likely to increase further as the Singapore government is actively looking at measures to enhance the employability of older Singaporeans. The natural result of better healthcare, longer life expectancy and delayed retirement is that there will be an increasing number of older persons who have chronic illnesses but are still able to work.

There is a pressing need to bridge the gap between OM and family medicine in this issue of the care of older workers. This is because for workers in the elderly age group, polypharmacy for multiple chronic conditions, declining physiological parameters and mild cognitive impairment are not uncommon. The onset of declining physiological abilities and mild cognitive impairment can affect work ability in some occupations.

For the occupational physician, understanding issues such as polypharmacy is important because of many potential interactions between workplace exposures, the worker's health condition and the medications the worker is taking. The family physician, on the other hand, would need to appreciate the patient's work requirements in the provision of holistic continuing care. Thus, a good working partnership with the family medicine practitioner is important for the optimal care of the ageing worker.

Continuing Medical Education

A survey of 74 GPs in the Jurong industrial district of Singapore found that 36% of these doctors had some

postgraduate training in OM (GP-OM). A large percentage of the respondents felt that OM training was inadequate (78% of GPs and 45.8% of GP-OMs). This was borne out by the fact that the GPs did not score as well in the OM knowledge questions as the GP-OMs.¹²

The National University of Singapore, the Occupational and Environmental Health Society, the Ministry of Manpower and some institutions like the Singapore General Hospital have been conducting teaching programmes in occupational and environmental medicine for both undergraduates and postgraduates.

However, occupational and environmental medicine still has some way to go to catch on as a learning subject in the family medicine community. A cursory review of any Continuing Medical Education (CME) schedule for family medicine practitioners will find that there are rarely any teaching events or updates on occupational health issues in family medicine. Similarly, in the talks of OM groups, few family medicine topics are included. There is a need for the various bodies in family medicine and OM to work closer together in CME.

Referrals

Referrals to occupational physicians and replies to family physicians form another area which may need attention. For example, in a study of 162 randomly selected referrals to occupational physicians in relation to sickness absence and fitness to continue work, it was reported that referrals were adequate when specifying or quantifying long-term absences.¹³ However, information regarding other relevant issues was much less frequent; for example, only 12% of the referral records provided a description of the job or task. Another study attempted to determine whether the time interval between acute myocardial infarction (AMI) and the referral and visit at OM clinics predicts resumption of full employment.¹⁴ Among their series of 168 patients who attempted return to work (RTW), 18 stopped working subsequently. Of the remaining 150 patients, 54 returned to part-time work and 96 were employed full-time after 2 years. The authors reported that for each month's delay in referral to the OM clinic, there was a 30% decrease in the chance for full employment 24 months after AMI, and that a delayed referral to the OM clinic was associated with work disability after AMI. However, the authors acknowledged that whether an earlier referral to OM clinics will result in increased RTW rates is unknown.

Conclusion

Family medicine and OM must not be practised in isolation. The family physician is in a crucial position to enhance the prevention and early detection of occupational diseases among his working patients. He plays a fundamental

role in continuing care and chronic disease management. The family physician is also the one who coordinates the care of the patient between specialties – he is the link between the OM practitioner and other clinical specialists who are caring for the patient.

The occupational physician has access to the patient at his workplace. He is thus in a vital position to influence primary prevention at the workplace and early detection of disease. The family physician is his valuable partner in managing the health of employees under his care. Thus, practitioners in both disciplines can and should work hand in hand to improve the standard of care for our patients.

REFERENCES

1. Singapore Ministry of Manpower. 2006 Labour Force Survey. Available at: http://www.mom.gov.sg/publish/momportal/en/communities/others/mrsd/Publications/singaporeyearbook_2007.html. Accessed 30 August 2007.
2. Spring Singapore website: Spring's Performance Indicators - Definition of SMEs. Available at: <http://www.spring.gov.sg/Content/WebPage.aspx?id=0e7aee48-13fc-4a68-91f7-14e053a68523>. Accessed 23 December 2007.
3. Sixtieth World Health Assembly (WHA 60.26) Agenda item 12.13 23 May 2007 Workers' health: global plan of action.
4. The DCCT Research Group: The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus: the Diabetes Control and Complications Trial Research Group. *N Engl J Med* 1993;329:977-86.
5. Cox DJ, Penberthy JK, Zrebiec J, Weinger K, Aikens JE, Frier B, et al. Diabetes and driving mishaps: frequency and correlations from a multinational survey. *Diabetes Care* 2003;26:2329-34.
6. Adams KM. Driving and diabetes: one piece of the picture. *Diabetes Care* 2003;26:2464-5.
7. Singapore Ministry of Health website. Primary Healthcare Services. Available at: <http://www.moh.gov.sg/mohcorp/hcervices.aspx?id=392>. Accessed 30 August 2007.
8. Singapore Ministry of Manpower website. Workplace Hazard Service Providers, Designated Factory Doctors. Available at: http://www.mom.gov.sg/publish/etc/medialib/mom_library/Workplace_Safety/files6.Par.62787.File.tmp/DFDfull_listVer11.pdf. Accessed 30 August 2007.
9. Singapore Ministry of Manpower website. List of Occupational Health Clinics. Available at: http://www.mom.gov.sg/publish/momportal/en/communities/workplace_safety_and_health/service_and_equipment/list_of_other_service/list_of_occupational.html. Accessed 30 August 2007.
10. Singapore Ministry of Health website. Publications - Clinical Practice Guidelines. Available at: <http://www.moh.gov.sg/mohcorp/publications.aspx?id=16266>. Accessed 30 August 2007.
11. Singapore Ministry of Manpower. Employed Residents aged 15 years and older by age and sex. Available at: http://www.mom.gov.sg/publish/etc/medialib/mom_library/mrsd/ts160307.Par.57816.File.dat/6_Res_emp_by_age_sex.xls. Accessed 30 August 2007.
12. Lee J, Liem LP, Koh D. Occupational health in general practice in an industrial area of Singapore. *Occup Med (Lond)* 2001;51:312-7.
13. Agius RM, Seaton A, Lee RJ. Audit of sickness absence and fitness-for-work referrals. *Occup Med (Lond)* 1995;45:125-30.
14. Froom P, Cohen C, Rashcupkin J, Kristal-Boneh E, Melamed S, Benbassat J, et al. Referral to occupational medicine clinics and resumption of employment after myocardial infarction. *J Occup Environ Med* 1999;41:943-7.