

Ethics education: a priority for general practitioners in occupational medicine

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Abstract

General practitioners (GPs) who work in occupational medicine (OM) should be trained continuously. However, it seems that ethical issues have been neglected. This cross-sectional study aimed to determine educational priorities for GPs working in OM. A total of 410 GPs who participated in OM seminars were asked to answer a number of questions related to items that they usually come across in their work. The respondents were given scores on 15 items, which pertained to their frequency of experience in OM, their felt needs regarding education in the field, and their knowledge and skills. Ethical issues were the most frequently utilised item and the area in which the felt need for education was the greatest. The knowledge of and skills in ethical issues and matters were the poorest. Ethical principles and confidentiality had the highest calculated educational priority scores. It is necessary to consider ethical issues as an educational priority for GPs working in the field of OM.

Introduction

With a population of over 71 million, Iran is the world's 19th largest country (1). Around 21 million people are employed, and these include service workers (46.6%), agricultural workers (20.3%) and industrial workers (32.7%) (2). Occupational injuries remain a major health problem in Iran, although the problem is under-reported (3). Nevertheless, 21,740 workers were reported to suffer occupational injuries during 2009 (4). According to the recent statistics compiled by the Iranian Forensic Medicine Organisation, the rate of deaths caused by occupational accidents was higher in 2011 than in 2001. The number of occupational accidents continued to rise in 2012, increasing by 19.2% (5). Since work seems to be potentially hazardous, physicians in any discipline should receive adequate training in occupational medicine (OM). This helps them to recognise whether injuries and illnesses are work-related or not (6,7). However, there are no defined educational programmes or courses in OM for medical students in Iran. General practitioners (GPs) are mostly at the forefront when it comes to diagnosing an occupational disease (6–8), preventing

further deterioration by taking proper measures, expediting the patient's return to work and managing the health-related ethical conflicts emerging in the work environment (8).

In high-quality medical practice, the GP must inevitably deal with ethical dilemmas and a greater emphasis must be laid on medical ethics. According to Resnik (2008) and Elsayed and Ahmed (2009), with a few modifications, ethical issues are of importance in medical care in the following five ways. First, a familiarity with ethical challenges and standards helps to achieve the goals of healthcare, ie a reduction in diseases and injuries. For instance, employing well-educated and qualified physicians and providing them continuous in-service training will improve their knowledge and practices, both in terms of healthcare and medical ethics, and may lead to a significant reduction of medical errors. Second, successful medical care involves strong communication between physicians, patients, patients' families and employers in the case of occupational injuries. Attention to medical ethics and its standards promotes moral values that are necessary for successful communication, including reliability, responsibility, mutual respect and impartial medical care. Confidentiality is one of the specific examples of the ethical standards that strengthen the physician–patient interaction and thus merits special attention. Third, ethical standards and principles make physicians accountable to their patients and this helps the latter trust their physicians, encouraging them to collaborate on medical care. Fourth, in a broader perspective, ethics assists in the promotion of public support for the healthcare system. Fifth, ethics promotes a healthy work climate, based on reliance, responsibility, mutual respect and fairness, which ensure collaboration among all healthcare workers. In fact, both healthcare workers and patients benefit from compliance with the principles of medical ethics (9,10).

Therefore, the knowledge and skills of physicians with respect to medical ethics play an important role in the type and quality of care provided to patients. Some of the reasons for which more attention should be paid to education in medical ethics are the increase in ethical conflicts in medical care, patient-oriented healthcare, the use of advanced medical technology and importance of legal considerations (11).

The practice of OM is fraught with ethical issues. The nature of ethical conflicts in OM and in general, working in the field of OM, are somehow different compared to other medical fields. In OM, physicians need to consider the interactions with employers, government and society to make appropriate clinical decisions (12). Few GPs are qualified in OM and they tend to overestimate their capability to diagnose or manage work-related diseases. Given this situation, more education on

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OM is necessary (13). In this study, we assessed the knowledge and skills of GPs, the frequency of their experience with such cases and their felt needs regarding education in the items they usually handled in the field of OM.

Materials and methods

This cross-sectional study was carried out during April–October 2014 on a population of 410 GPs who participated in seminars and continuing medical education (CME) courses. The response rate was 89%, with 365 respondents answering the questions. Participation in this study was voluntary and written informed consent was obtained. Approval was obtained from the ethics committee of the Tehran University of Medical Sciences (TUMS). All data were considered confidential and ethical considerations were kept in mind.

To develop a self-administered questionnaire, initially a group of experts in OM from TUMS designed a preliminary version based on the educational curriculum. In the second stage, after a pilot study on 20 GPs, the questionnaire was revised by the expert group. The second edition of the questionnaire was piloted on 30 GPs and its internal reliability was evaluated by α Chronbach coefficient ($\alpha=0.85$). The final questionnaire consisted of 15 educational items. The participants were required to answer three questions on each item: (i) how often they utilised their knowledge and skills in the item (item utilisation), (ii) what their felt educational needs were regarding the item, and (iii) what their levels of knowledge and skills were in each item.

Item utilisation was evaluated in terms of daily, weekly, monthly and rarely, and the two other questions were measured in terms of very low, low, medium, high and very high, with the scores ranging from 1 to 5. To calculate the item utilisation per month, the daily and weekly item utilisation were multiplied by 30 and 4, respectively. For instance, the item utilisation for “ethical principles in occupational health services” and “research” was 15.02 and 2.9, respectively, which means that the respondents used their knowledge and skills regarding the first item every other day and the latter nearly every 10 days.

To determine the educational priority of each item, its item utilisation was multiplied by the felt educational need.

The other variables included the respondent’s years of experience as a GP, interval between graduation and participation in the study, age and sex.

The data were analysed with Statistical Package for Social Scientists for Windows, 18 (SPSS, Inc. Chicago, USA). A p value of less than 0.05 was considered significant.

Results

Of the respondents, 217 (68.7%) were male. The details of the physicians, such as age, years of experience as a GP, and the interval between graduation and participation in the study, are shown in Table 1. The distribution of the interval between graduation and participation in the study (attendance in the OM seminar) was as follows: 13 (8.7%) >20 years, 104 (69.8%) 10–20 years, and 32 (21.5%) <10 years. The distribution of the

number of patients who visited the physicians daily was as follows: 108 (57.1%) <20; 45 (23.8%) 20–40; and 36 (19%) >40.

Table 1: Characteristics of study population

| Variable | Mean | SD | Min | Max |
|--|-------|-------|-----|------|
| Age (years) | 40.6 | 6.8 | 27 | 77 |
| Years of experience as a GP | 12.2 | 6.7 | 1 | 50 |
| Time between graduation and study | 13.3 | 7.5 | 1 | 46 |
| Number of patients visited (in the past month) | 506.2 | 493.2 | 10 | 2500 |

The items utilised by the GPs were measured. Ethics (15.02), confidentiality (13.94) and record-keeping (12.65) were the most frequently utilised items. The participants felt that they needed more training on “ethics” (4.12) and “confidentiality” (4.03), too (Table 2).

Table 2: The item utilisation per month (IU), felt educational needs (FEN), and calculated educational priorities (CEP)

| Educational items | IU | FEN | CEP |
|---|-------|------|-------|
| Ethics | 15.02 | 4.12 | 61.88 |
| Confidentiality | 13.94 | 4.03 | 56.18 |
| Occupational exposure assessment | 11.43 | 3.96 | 45.26 |
| Physical examination | 10.42 | 3.95 | 41.16 |
| Record keeping | 12.65 | 3.24 | 40.99 |
| Approving or refusing the request for sick leave | 10.62 | 3.44 | 36.53 |
| Interpretation of laboratory tests | 8.96 | 3.97 | 35.57 |
| Diagnosis and management of work-related diseases | 8.79 | 3.93 | 34.54 |
| Ordering paraclinical laboratory tests | 8.91 | 3.86 | 34.39 |
| Fitness for work | 6.88 | 3.83 | 26.35 |
| Legal aspects of occupational diseases | 6.53 | 3.90 | 25.47 |
| Return to work | 6.43 | 3.90 | 25.08 |
| Occupational accidents | 6.35 | 3.69 | 23.43 |
| Application of the collected data for future health services planning | 4.35 | 3.85 | 16.75 |
| Research | 2.90 | 3.63 | 10.53 |

Calculations showed that items such as “ethics” (61.88) and “confidentiality” (56.18) were the most important educational priorities (Table 2).

The physicians rated their knowledge of and skills in “ethics” (1.62) and “confidentiality” (1.73) as “low”. Their rating of their knowledge and skills with respect to “ordering of paraclinical laboratory tests” (2.25) and “record-keeping” (2.69) was “high” (Table 3).

The results showed that “educational priority” and “item utilisation” were highly correlated ($r=0.9$, $p<0.001$). In each item, there was a strong positive correlation between the knowledge and skills of the physicians and item utilisation ($r=0.8$, $p<0.001$). In addition, we found an inverse correlation between “physicians’ knowledge and skills” and “their felt educational needs” ($r=-0.5$, $p=0.04$).

Table 3: The rank of GPs' knowledge and skills (KS) and educational priorities (CEP)

| Educational items | KS* | KS rank** | CEP rank |
|---|------|-----------|----------|
| Ethics | 1.62 | 15 | 1 |
| Confidentiality | 1.73 | 14 | 2 |
| Legal aspects of occupational health services | 1.78 | 13 | 11 |
| Application of the collected data for future health services planning | 1.86 | 12 | 14 |
| Research | 1.88 | 11 | 15 |
| Return to work | 1.91 | 10 | 12 |
| Ability to assess occupational exposures | 2.02 | 9 | 3 |
| Fitness for work | 2.03 | 8 | 10 |
| Physical examination | 2.11 | 7 | 4 |
| Diagnosis and management of work-related disease | 2.13 | 6 | 8 |
| Interpretation of laboratory tests | 2.18 | 5 | 7 |
| Occupational accidents | 2.24 | 4 | 13 |
| Approving or refusing the request for sick leave | 2.25 | 3 | 6 |
| Ordering of paraclinical laboratory tests | 2.25 | 2 | 9 |
| Record keeping | 2.69 | 1 | 5 |

* GPs' knowledge and skills ranged from 1 (very low) to 5 (very high)

** Mean of KS items were ordered ascending

Discussion

This study aimed to determine the educational priorities for physicians working in OM. To this end, many items that are generally utilised in this field were compared in terms of their utilisation, the GPs' knowledge and skills, and their felt educational needs. Finally, the educational priorities were determined. In the physicians' view, "ethics" and "confidentiality" – considered another aspect of ethics – were the most essential priorities.

The OM items most frequently utilised by the practitioners included "ethics", "confidentiality" and "record-keeping", which was the third priority. On the other hand, the participants stated that they were rarely involved in activities related to items such as "research", "application of the collected data for future health services planning" and "occupational accidents". In their study, Turner et al found that the physicians used items such as "confidentiality", "ethics", and "disease and relevant clinical exam" more frequently. These physicians were less frequently involved in "research", too (14). In another study, almost all physicians and nurses in OM had faced ethical problems as a part of their practice (15).

The main intent of companies and organisations is to function well and earn money, rather than to promote the health of the workers (16). Ethical conflicts emerge when the organisation's goals are in conflict with the health needs and goals of the workers (17). Everybody, ranging from society, companies and organisations to managers, workers, and occupational health professionals, has to deal with the major ethical challenges posed by the rapid changes and innovations in work (18). This makes the discipline of OM, particularly occupational health ethics, and the diverse and ambiguous physician-patient interaction, unique compared to other fields of healthcare (19).

In the case of occupational professionals, the confidentiality of medical information is regarded as a prominent aspect of ethics (20). When an occupational physician starts to give advice to a manager, a number of obvious ethical limitations may emerge. This makes it necessary to plan occupational health courses through CME programmes, and ethics should be considered an integral part of this training (21).

According to the GPs, there was a crying need for education and training in "ethics" and "confidentiality". In line with our study, the majority of occupational physicians and nurses in a study by Martimo et al wished to receive training in ethics (15). Researchers have documented evidence of errors in physicians' judgment in issues concerning medical ethics (22,23). The live and changing nature of medical ethics is one of the main factors that necessitates continuing training needs. In several studies, practising physicians have expressed a need for the provision of specialised training related to the identification and analysis of ethical problems (24,25).

According to the physicians' evaluation, their current knowledge and capabilities regarding "confidentiality" and "ethics" were inferior to their knowledge of other medical fields. Their highest educational priorities, which derived from two variables, consisted of "ethics" and "confidentiality". A Delphi survey of employers and employees from public and private organisations, health and safety specialists, as well as trade union representatives ranked the required competencies of occupational physicians from the most to the least important, and the most important competencies were law and ethics (26).

There is substantial empirical evidence that education in medical ethics leads to greater knowledge, a more positive attitude and better management of ethical challenges (11). Such training can help one to distinguish whether or not the root of a challenge in medical practice is ethical and to develop competencies to cope with ethical problems. It also increases the physician's confidence when it comes to decision-making and clarifies ethical values (27–30).

On the basis of the above, there is strong evidence that the purposes of education in ethics, as determined by authoritative and professional organisations, can be fulfilled and are also welcomed by physicians who work in the field of OM.

This research highlights the urgent need to re-plan CME courses for OM so that they emphasise education in medical ethics. Physicians in OM come up against ethical challenges that are distinct from those faced by their counterparts in other areas. Therefore, education in ethics must be customised to suit their learning needs and prepare them to handle their specialty-specific ethical problems. To achieve this goal, CME organisations and related professional medical associations should develop ethical training programmes based on approved guidelines, which are derived from practical problems that are faced frequently. These guidelines have appropriate objectives and customised, up-to-date curricular content. They use relevant educational methods and include

suitable evaluation and feedback techniques. The guidelines should, of course, be updated periodically by qualified OM specialists. All physicians who intend to work in this field should take part in these programmes at regular intervals and being qualified in OM must be one of the prerequisites of work in this field. It is also true that different organisations need a diverse range of OM services and this, along with continuous changes in working conditions, such as the use of advanced technology, increases the complexity of ethical issues related to medical care options. Therefore, in some cases, physicians are required to consult OM professionals. It is recommended that professional and accreditation bodies develop an OM network that provides professional advice and opportunities for discussion on cases involving ethical issues.

It is also worth remembering that as different people have widely varying requirements of CME, no single learning programme is appropriate for everyone (14). Ethical training cannot provide an absolute set of right or wrong answers in a moral framework, but rather, a set of professional principles, which motivate appropriate behaviors. Developing ethical training programmes based on the most up-to-date guidelines and approved criteria can improve the quality of CME courses.

As this was a questionnaire-based study, the knowledge and skills of the participants were based on their ideas and under-/ overestimation could have occurred. Therefore, we propose that more studies be conducted in which the knowledge and skills of the physicians are evaluated directly. Physicians working in OM need to acquire greater knowledge of and expertise in ethics. Although ethical issues have usually been a key component for good practice in healthcare, especially in occupational health services, the results show that greater attention needs to be paid to these issues. We suggest that ethics-related issues be taught in CME courses for this population.

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