Invited Editorial

Occupational Hygiene in Developing Countries: Something to Talk About?

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‘Occupational hygiene in developing countries’ has been on the agenda of conferences, symposia and scientific journals for more than two decades. The earliest reference I could trace in MEDLINE under this key term stems from a conference in East Germany (Elling, 1978) and the latest was the 1996 William P. Yant award lecture by Bernice Goelzer (Goelzer, 1996). Despite this, a look at recent volumes of occupational hygiene journals reveals few papers from developing countries, and the majority of these come from the fast-developing economics of East Asia. There are very few from the low-income countries of Latin America and Africa. The paper presented by Ohayo-Mitoko et al. from Kenya in this issue seems to be the first paper from Africa (outside South Africa) in the Annals for a long time (Ohayo-Mitoko et al., 1999).

Of course, the number of publications in leading occupational hygiene journals cannot equate to the state of occupational hygiene in a country. Lack of a publishing tradition and the language barrier will also play a role, but the results of this quick literature review are worrying given the fact that the majority of workers in our world are from low-income countries. These workers are increasingly exposed to hazardous situations which no longer exist in the western world. In addition hazardous industries and chemicals are quite often wilfully exported to these low-income countries. Besides, poor socio-economic and meteorological conditions will often intensify the occupational health risks. Several publications have pointed out that skilled occupational hygiene professionals are lacking in most low-income countries (Loewenson, 1995; Goelzer, 1996) and that only occupational physicians provide some of the necessary health care. So, why are we in a situation that at workplaces where occupational hygiene is apparently most needed, it seems to be absent?

First, it could be that the importance of occupational hygiene has not been clearly enough demonstrated to make it a structural discipline within the field of occupational health in developing countries. As such, the situation is not different from how it was in my own country, the Netherlands, twenty years ago. It took a meeting of occupational physicians in 1978 to start the first MSc course in occupational hygiene in Wageningen (Tordoir, 1978). Since then, more than two hundred students have graduated and the majority have joined occupational health units. Nowadays, occupational hygiene has established a firm base in The Netherlands. So apparently, with consensus about the role of occupational hygiene in occupational health and an established legal status, something lasting can be established. Unfortunately, in low-income countries it is doubtful whether consensus exists even about the importance of occupational health.

Second, it could be that occupational hygiene in these countries needs different priorities, and it is wrong to export the methods and training of developed countries. The work in developing countries should emphasise interventions, i.e. substitution and elimination of hazardous technologies rather than extensive exposure surveys. It should also focus more on the non-formal sector where a large proportion of workers is employed. High-tech sophisticated tools and strategies are most of the time not needed. Curricula for occupational hygiene in developing countries should therefore be different from our regular curricula. Specialised courses should be offered on location, rather than having trainees from developing countries following regular education in the developed world. The latter merely serves academic institutions that are being confronted with dwindling numbers of students. Sandwich courses where the student does the
research in the country of origin are workable alternatives.

Third, it could be that occupational hygiene activities have been much too isolated, mainly within the realm of occupational health (physicians, nurses and safety experts). It is extremely important to have occupational hygiene intertwined with environmental hygiene and engineering and/or primary health care. The close relationship with environmental health should be obvious given the spatial closeness of the occupational and environmental environment in a lot of cottage industries and subsistence agriculture. A recent very impressive example of an occupational hygiene study focusing on appalling labour conditions in Indian tanneries demonstrated promising opportunities for linking occupational hygiene to the field of environmental and sanitary engineering (Ory et al., 1997). In this study rapid semi-quantitative appraisal techniques for evaluating hazardous conditions at the workplace were applied and turned out to be effective. The information gained with this approach was informative enough to initiate interventions to control exposure.

Finally, some people claim that occupational hygiene is not needed in the world’s most dreadful workplaces. Political pressure from consumers, environmentalists, and large international bodies (ILO, WHO) are considered to be far more effective for abolishing bad labour conditions and child labour. Although, I partly agree with this, I am convinced that occupational hygiene could make a difference in developing countries and provide data for policies at the international and eventually national level. In the absence of a strong legislative framework to establish occupational hygiene, international and national pressures are nevertheless beneficial (Shahab, 1998).

Effective occupational hygiene in developing countries is only possible when access to large (international) companies and the informal sector is secured. In the study from Kenya presented in this issue it was fortunately the case. The paper shows what the occupational hygiene contribution to a health effects study can be. In a previous paper from the Kenyan contribution to the East African Pesticides Network Project the dramatic inhibition of acetylcholinesterase due to application of pesticides both at large estates and at small subsistence farms was well described (Ohayo-Mitoko et al., 1997). Combining the acetylcholinesterase inhibition data with auxiliary information on tasks, hygienic behaviour and protective clothing enabled the elucidation of factors determining the exposure. The results were detailed enough to give direction for control strategies and intervention studies.

An important problem is that results of such studies are not always well received. For instance, the presented study gave rise to heated debates in the Kenyan and international press (Kenya Times, 1998; Guardian Weekly, 1998) and an exchange of fierce letters between the Agrochemical Association of Kenya and Wageningen University. The quote “If allowed to go unchallenged such misleading information will falsely cause serious damage to Kenyan export industries” tells it all.

The viability of occupational hygiene assumes a social consensus (usually embodied in laws and regulations) by which employers have a responsibility to protect workers and will sometimes have to make changes in order to protect them and bear the associated costs. In the majority of low-income countries this social infrastructure is lacking and without it occupational hygienists are not allowed to act as true professionals, but are turned into “hod carriers” for industry.

So, with ever growing numbers of workers exposed to hazardous substances in developing countries (see for instance, for the latest updates, recent issues of the International Journal of Occupational and Environmental Health), occupational hygiene in these countries is unfortunately still something we merely talk about. The International Occupational Hygiene Association (IOHA) has joined the discussion, by adopting ‘Occupational Hygiene in Developing Countries’ as the theme for its upcoming conference in Cairns, Australia in 2000. (Key papers from this conference are expected to form a dedicated issue of Annals of Occupational Hygiene.) IOHA also launched a new programme after deciding to end the failing process of matching learners with mentors on a one-to-one basis. The key objective of the new programme will be to enhance the creation of an international network of occupational hygiene organisations. The idea behind this initiative is to help groups of individuals within a country to form associations with the ultimate goal being membership of IOHA. (For details of the Cairns Conference, see www.curtin.edu.au/org/aioh/cairns2000; for other IOHA information, see www.bohs.org/ioha/index.html.)

An example of another recent initiative is the creation of an environmental hygiene programme (including both occupational and environmental hygiene aspects) at MSc level within the Central American Institute of Studies in Toxic Substances (IRET) of the Universidad Nacional, Costa Rica. This programme is a collaborative project of the Costa Rican universities, Universidad Nacional together with the Technological University of Costa Rica. This initiative emanated amongst others from the successful co-operation between the Universidad Nacional and Wageningen University in place since 1993 through the exchange of students, execution of several research projects and a well-received short course on occupational hygiene in Costa Rica in 1997.
Hopefully, we will be able to make up for lost time in the near future and will start “doing occupational hygiene” instead of “talking about occupational hygiene” in developing countries. By doing so, we will surely have something to talk about at conferences and in occupational hygiene journals.

Acknowledgements—I would like to acknowledge the following colleagues, with long-standing experiences with occupational hygiene in developing countries, who contributed to the numerous discussions that resulted in this editorial: Grace Ohayo-Mitoko, Rudolf van der Haar, Berna van Wendel de Joode, Catharina Wesseling, Clemens Ruepert, Wim Mullié, Ferko Öry and Dana Loomis.

REFERENCES


