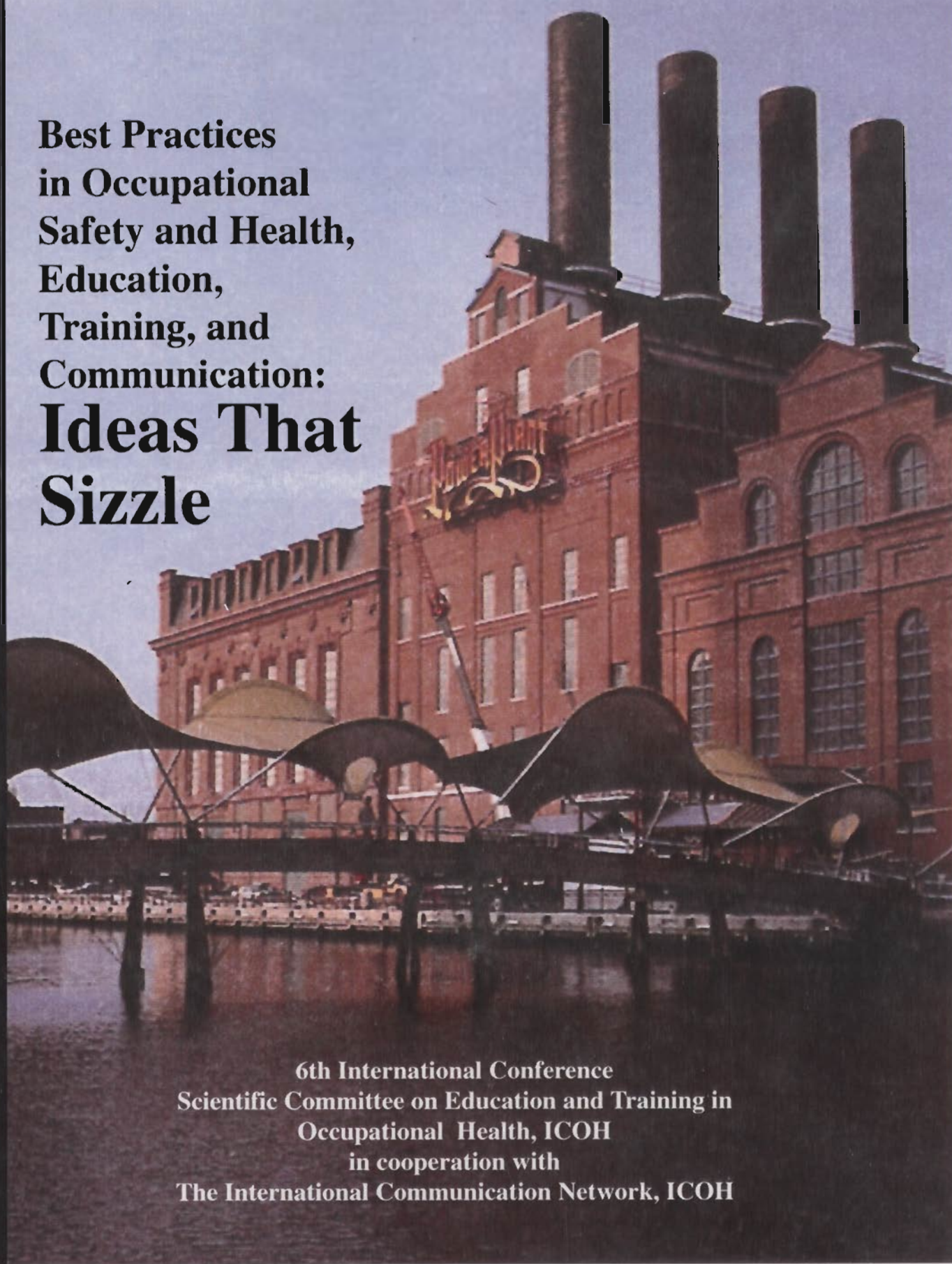


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EFFECTIVENESS OF EDUCATIONAL INTERVENTION ON LEAD WORKERS AT DIFFERENT TIMES AFTER THE PROGRAM

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Health education has a potential very relevant impact on reducing the exposure level to toxic substances. In fact, health education programs can be useful for preventive purposes, by improving the knowledge of health risks related to exposure. An educational intervention can be better finalized with the inclusion of learning assessments, that can be done at different time after the educational program.

A study was conducted to verify the effectiveness of an educational program on lead (Pb) exposed workers. The program consisted of the administration of questionnaires and the measurement of blood Pb (PbB) and ZPP levels before and after attending a structured training session. The influence of psychologically-related variables on the subjects' responsiveness were also investigated, to verify at what extent these factors should be also considered when designing and implementing educational intervention programs.

The target population consisted of a group of 30 male Pb workers. A questionnaire on Pb health effects was administered before a structured training session. At the same time, PbB and ZPP were measured for each subject. The questionnaire was coded into: a) a score reflecting the knowledge level of Pb toxicity and b) a score on the adoption of safety and preventive procedures. Additional questionnaires on personality and mood factors characterizing introversion, extroversion, anxiety and depression were also administered. The training session included the

illustration of Pb health effects and of safety and preventive measures to be adopted by the workers. This was accomplished with 1 hour of oral teaching by a specialized occupational health professional to groups of 5 subjects each and with informative brochures given to the workers. The questionnaires on Pb health effects and safety and preventive measures were repeated 6 and 12 months thereafter, together with the measurement of PbB and ZPP.

The average pre-intervention PbB was $22.78 \pm 12.23 \mu\text{g/dl}$, and ZPP $3.25 \pm 1.92 \mu\text{g/dl}$.

Compared to this baseline, similar average values of PbB were observed at 6 and 12 months, but with a drop of Pb B values $> 40 \mu\text{g/dl}$, and a significant decrease of ZPP . The knowledge and procedural scores of the questionnaires increased significantly at 6 months and remained stable. The results of the education program were found to be less effective with those workers with certain personality (neuroticism) and mood (depression) figures and also with heavy drinking and smoking habits. No changes had taken place in the work environment during the study.

As a conclusion, educational training programs are truly able to effectively reduce peak Pb exposure, also in workers exposed on generally low levels. This can be achieved by informing the workers on health risks of exposure, and by inducing the adoption of safety procedures. In order to be fully effective, such programs should be repeated periodically in the workplace.