

## COMMENTARY

# Environmental health literacy within the Italian Asbestos Project: experience in Italy and Latin American contexts

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### Abstract

The adoption of multidisciplinary approaches to foster scientific research in public health and strengthen its impact on society is nowadays unavoidable. Environmental health literacy (EHL) may be defined as the ability to search for, understand, evaluate, and use environmental health information to promote the adoption of informed choices, the reduction of health risks, the improvement of quality of life and the protection of the environment. Both public health and environmental health literacy involve access to and dissemination of scientific information (including research findings), individual and collective decision-making and critical thinking. Specific experiences in environmental health literacy have been developed within the Italian National Asbestos Project (Progetto Amianto) in Latin American countries where the use of asbestos is still permitted, and in Italy where a specific effort in EHL has been dedicated to the risks caused by the presence of fluoro-edenite fibers in the town of Biancavilla (Sicily). Taking into account the different geographical and socio-economic contexts, both public health and environmental health literacy were addressed to a wide range of stakeholders, within and outside the health domain.

### Key words

- environmental health literacy
- asbestos
- fluoro-edenite
- international cooperation
- Latin America

The adoption of multidisciplinary approaches to foster scientific research in public health and strengthen its impact on society is nowadays unavoidable. A relevant example is provided by integrated approaches to "Environment and Health" [1, 2], "Social Determinants of Health" [3, 4] and "Health Literacy" [5-7], all of them relying on activities aimed at improving knowledge, awareness and preparedness of different stakeholders on the health impact of environmental factors. They all share the objective of strengthening the capacity of stakeholders to access, understand and appropriately use environmental health information. Environmental Health Literacy (EHL) may be defined as the ability to search for, understand, evaluate, and use environmental health information to foster the adoption of informed choices, the reduction of health risks, the improvement of quality of life and the protection of the environment. In this frame, EHL integrates concepts from both environment and health literacy to develop expertise and awareness that people need in order to comprehend and appropriately use information pro-

moting behavioral changes that may positively impact on individual and public health and the environment ([www.sophe.org/environmentalhealth/key\\_ehl.asp](http://www.sophe.org/environmentalhealth/key_ehl.asp)).

EHL on asbestos exposure has a long-standing tradition in Italy, and in particular in those areas characterized by major asbestos industrial activities with their related health impacts ([8]; Emilia Romagna and Toscana regional health authorities web sites: [www.arpa.emr.it/index.asp?idlivello=110](http://www.arpa.emr.it/index.asp?idlivello=110); [www.arpat.toscana.it/temiam-bientali/amianto](http://www.arpat.toscana.it/temiam-bientali/amianto)). Specific experiences in EHL have been recently developed within the Italian National Asbestos Project (Progetto Amianto, [www.iss.it/amianto](http://www.iss.it/amianto)).

In this research project, funded by the Ministry of Health (2013-2015) and coordinated by the Istituto Superiore di Sanità (ISS – National Health Institute in Italy), specific dissemination strategies have been elaborated together with Latin American partners with respect to the asbestos issue. The partnership of this cooperation includes Latin American countries, where asbestos is still produced and widely used, and Italy, where asbestos is banned since 1992. Dissemina-

tion strategies envisaged in this project relied on: i) the identification of relevant stakeholders; ii) the adoption of dissemination tools implemented according to local needs and priorities; and iii) the bi-directional transfer of knowledge and exchange of experiences to achieve capacity building. Improving EHL has therefore been one of the goals of this collaborative experience aimed at disseminating scientific evidence and best practices on asbestos disease prevention taking into account different socio-economic contexts.

The multidisciplinary nature of the cooperation framework is based on the involvement of different skills – epidemiology, industrial hygiene, environmental health, socio-economic and communication sciences. Its potential impact is corroborated by the engagement of different stakeholders: public health students and researchers, health and environment governmental representatives, representatives of associations of workers and industry, NGOs, among several others. Dissemination and training initiatives consisted of conferences, seminars, interviews, and strategic meetings; they were all designed and executed with local partners. These initiatives have been organized in Latin American countries (Colombia, Ecuador, Bolivia and Brazil) and in Italy. Activities were facilitated by the existence of a collaborative network of academic and scientific institutions established during NECOBELAC Project funded by EU within FP7 and coordinated by the ISS [9].

Providing access to online international documentation on asbestos and asbestos-related diseases, sharing best practices on asbestos disease prevention and supporting open access publishing of local studies on asbestos fostered the implementation of EHL within this cooperation framework. The socio-economic impact assessment associated with past and present use of asbestos at global and local scale has also been included in order to improve local awareness on the implications of the asbestos industry dislocation in the industrializing countries in the last decades, and the associated increasing burden of asbestos disease.

Contents of training and dissemination initiatives were targeted to the local attendants in order to respond to their specific needs and, more in general, to foster scientific knowledge through discovery and use of data and epidemiological studies as well as to promote awareness on reducing hazardous exposures in working and living environments. In this context, increased EHL is effective for communicating risk on asbestos use and asbestos-related diseases to local authorities and decision-makers.

Participants in training and dissemination initiatives benefited from receiving selected open access multimedia and multi-language (Spanish, Italian, English) material (such as technical reports on asbestos-related disease prevention [10], scientific journal articles [11–13], powerpoint presentations, videos, and interviews) through various communication channels including the institutional project website and local media (newspapers, radio and television) in Latin American countries. Particular attention was given to disseminate updated scientific reports, and online information and data on

asbestos issued by international organizations (WHO, IARC, UNEP, ILO, UN Rotterdam Convention, EU). Presenting and discussing international and national experiences with Latin American partners has created the conditions for establishing a collaborative framework to tackle the challenge of improving knowledge, awareness and preparedness on health impact of asbestos hazardous exposures, increasing environmental health literacy to contrast local burden of asbestos-related diseases that is nowadays under-reported.

A second specific effort in EHL, within the National Asbestos Project, has been dedicated to the problems raised by the occurrence of fluoro-edenite fibers in the town of Biancavilla (Sicily) [14, 15]. A significant example of EHL on this respect is represented by a recently published issue of ISS's Newsletter [16] describing a communication strategy adopted to engage different local stakeholders – health professionals, local authorities, school community (teachers and students), media – and presenting updated research results, public health interventions and health promotion activities. This open access publication benefited from a multidisciplinary skills of professionals from national and local institutions in the public health and environment sectors which allowed the establishment of a rigorous, clear and transparent communication process. This experience corroborates the effectiveness of EHL for increasing the preparedness of a whole local community (policymakers, operators and citizens) to manage an environmental health threat.

As it has been previously mentioned, both public health literacy and EHL involve, among else, search and dissemination of scientific information (and thus of research findings), individual and collective decision making and critical thinking. Both public health and environmental health literacy are addressed to a wide range of stakeholders, within and outside the health system.

It appears rather straightforward, in this frame, to see a connection between health literacy and the strategy underlying communication of research findings in consequential environmental epidemiology [17]. The latter approach pursues the improvement of population health by promoting interventions that appear particularly promising in given contexts.

Public health may directly pursue the public good in terms of the greatest benefit to the greatest number of subjects, or it can have a privileged consideration for worst-off situations that may require additional investments [18]. In any case, the requirement is to implement etiological studies with the consequential action needed to reach the adoption of the best solutions.

In conclusion, it is important to emphasize the following lessons learned from initiatives aimed to increase EHL on asbestos-related disease prevention in different geographic areas and socio-economic contexts:

- the adoption of a cross-disciplinary approach is particularly important to implement cooperation frameworks at international and national level for addressing global and local environmental public health issues;
- the identification and the engagement of different stakeholders is essential to adapt the global challenges

to local priorities and specific needs associated with reducing the health impact of involuntary exposures to carcinogens such as asbestos;

- the asbestos case testifies the links among environment, public health and socio-economic development, corroborating the importance of environmental health literacy as a social determinant of health;
- EHL focused on environmental risks, such as hazardous asbestos exposures in working and living environments, is a key element to strengthen the culture of prevention and the environmental health promotion;
- the establishment of a multidisciplinary working group, involving health and social scientists, to adapt the cooperative approach engaging local organizations (local authorities, health professionals, teachers and

students, cultural associations) is mandatory to maximize the impact of dissemination and training activities and to guarantee the full exploitation of results;

- EHL can contribute to foster the adoption of informed choices and effective approaches by decision-makers in order to guarantee healthy life and environment at community level.

### Conflict of interest statement

There are no potential conflicts of interest or any financial or personal relationships with other people or organizations that could inappropriately bias conduct and findings of this study.

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