

Public health professionals evaluate EURALIM, a European information campaign on diet and nutrition

S. Beer-Borst¹
 A. Morabia¹
 S. Hercberg²
 MS. Bernstein¹
 P. Galan²
 R. Galasso³
 S. Giampaoli⁴
 S. Houterman⁵
 C. Lo Noce⁴
 E. McCrum⁶
 S. Panico⁷
 P. Preziosi²
 L. Ribas⁸
 L. Serra-Majem⁸
 WMM. Verschuren⁵
 J. Yarnell⁶
 ME. Northridge⁹

Abstract

Objective: To assess how public health professionals evaluate a mass information campaign on European differences on exposure to risk factors for cardiovascular disease.

Design: EURALIM, a collaborative public health project, pooled and harmonised data on cardiovascular disease risk factors from seven European surveys and presented selected results in a brochure. During a European information campaign in Spring 1998, 60,000 brochures were distributed through public health professionals to the general public, with the aim to improve public awareness of existing gender differences in risk factor distributions and prevalences across different populations. The information campaign was evaluated by sending a questionnaire to 1,444 public health professionals.

Setting: France, Italy, Northern Ireland (UK), Spain, Switzerland, The Netherlands

Results: Participation was low (21%) but results of the survey were strikingly consistent across the seven study centres. Most respondents stated that the project's main objectives were fairly well or to a great deal attained (87%) and the brochure comprehensible and useful to them (77%). On the other hand 57% of the respondents rated the brochure as too complicated for the general public; 73% thought the general public would not be interested in European comparisons.

Conclusions: Lessons of the present study can help design valid evaluation campaigns. The brochure was appropriately targeted to public health professionals. We were not able to determine whether it was well suited for the general public because we did not directly seek their opinion. Even though participation was low, the consistency of the opinions expressed by international public

Resumen

Objetivo: Analizar la evaluación realizada por los profesionales de la salud pública sobre una campaña informativa, dirigida a la población general, acerca de las diferencias europeas existentes en la exposición a los factores de riesgo cardiovascular.

Diseño: EURALIM, es un proyecto de colaboración en salud pública, en el que se agruparon y homogeneizaron datos sobre factores de riesgo cardiovascular procedentes de siete estudios poblacionales europeos, los principales resultados del análisis se presentaron en unos folletos informativos. En la primavera de 1998, se realizó una campaña informativa europea en la que se distribuyeron 60.000 folletos a la población general, a través de los profesionales de salud pública. Dicha campaña tenía como objetivo incrementar el conocimiento de la población sobre la existencia de diferencias relacionadas con el sexo, de la distribución de los factores de riesgo cardiovascular y sus prevalencias en distintas poblaciones. La campaña informativa fue evaluada mediante 1.444 cuestionarios enviados a los profesionales de la salud pública.

Participantes: Francia, Italia, Irlanda del Norte (Reino Unido), España, Suiza, Holanda.

Resultados: La participación fue baja (21%) pero los resultados de la encuesta fueron altamente consistentes en los siete centros del estudio. Muchos participantes indicaron que los principales objetivos del proyecto fueron en gran medida o casi totalmente alcanzados (87%) así como la comprensión y utilidades de los folletos (77%). Por otro lado el 57% estimó que los folletos eran demasiado complicados para la población general; el 73% creía que el público en general podría no estar interesado en comparaciones europeas.

Corresponding author:

Dr. Alfredo Morabia
 Division of Clinical
 Epidemiology
 University Hospitals of
 Geneva
 25, Rue Micheli-du-Crest
 1211 Geneva 14,
 Switzerland
 E-mail:
 Alfredo.Morabia@hcuge.ch

¹EURALIM Data Co-ordinating Center, Division of Clinical Epidemiology, University Hospitals of Geneva, Switzerland.

²Institut Scientifique et Technique de la Nutrition et de l'Alimentation, Conservatoire National des Arts et Métiers, Paris, France.

³Regional Hospital of Oncology, Rionero in Vulture, Italy.

⁴Laboratory of Epidemiology and Biostatistics, National Institute of Public Health, Rome, Italy.

⁵National Institute of Public Health and the Environment, Bilthoven, The Netherlands.

⁶Department of Epidemiology and Public Health, Queen's University of Belfast, Northern Ireland, UK.

⁷Department of Clinical and Experimental Medicine, Federico II University of Naples, Italy.

⁸Community Nutrition Research Group, Department of Clinical Sciences, University of Las Palmas de Gran Canaria, Spain.

⁹Harlem Center for Health Promotion and Disease Prevention, Joseph L. Mailman School of Public Health of Columbia University, New York, USA.

health professionals was an important criterion for the interpretation of the survey results.

Key words: Cardiovascular disease. Europe. Evaluation. Information campaign. Public health surveillance.

Introduction

Local antismoking¹ or national dietary information campaigns^{2,3} have been previously evaluated, but to our knowledge no information is available on the evaluation of an international public health information campaign.

EURALIM (EUROPE ALIMENTation), a European collaborative study, aimed to determine and describe the extent to which European nutrition data from different populations could be harmonised and pooled in a common database for international comparisons. The project's objective was to allow the general public and public health professionals and politicians involved in public health issues to compare the exposure to cardiovascular risk factors across different European populations. The rationale was that these comparisons presented in an accessible scientific brochure entitled "NUTRITION & THE HEART, Healthy Living in Europe"⁴, could serve as a basis for defining attainable targets for public health interventions. Sixty thousand brochures were disseminated across Europe. Public health professionals from six European countries served as mediators between the EURALIM research group and the general public.

The project evaluation consisted in sending a questionnaire to over 1,400 public health professionals across the participating countries. We sought information about possible improvements of the methodological approach and about the perception and impact of the distributed brochures on public health professionals and the general public.

We present here the results of this evaluation survey.

Conclusiones: Las enseñanzas del presente estudio pueden ayudar al diseño de campañas válidas de evaluación. Los folletos fueron apropiadamente dirigidos a los profesionales de la salud pública. No se pudo determinar si fueron adecuados para la población en general ya que no se solicitó directamente su opinión. A pesar de que la participación fue baja, la consistencia de las opiniones expresada por los profesionales internacionales de salud pública fue un importante criterio para la interpretación de los resultados de la encuesta.

Palabras clave: Enfermedad cardiovascular. Europa. Evaluación. Campaña informativa.

Material and Methods

The design, participants and methods⁵ and results⁶ of the EURALIM project are described elsewhere in greater detail. Briefly, data for 18,381 women and 12,908 men, aged 40-59, from seven independent European surveys (from France⁷, the city of Naples and province of Latina in Italy^{8,9}, the province of Catalonia in Spain¹⁰, the canton of Geneva in Switzerland¹¹, The Netherlands¹², and the greater Belfast area in Northern Ireland, United Kingdom³) were harmonised and pooled in a common database. Analyses were centrally conducted after special attention to methodological considerations.

The brochure "NUTRITION & THE HEART, Healthy Living in Europe"⁴ was developed as an information tool primarily for the general public, but also for public health professionals and politicians. Within-population contrasts by gender of cardiovascular disease risk factors for the seven participating populations were presented in two different ways, as shown in Figure 1 and Figure 2. The inter-quartile range allowed an individual to locate her/his personal measured risk factor value in relation to her/his population distribution. The relative frequency of women and men who have risk factor values greater than or equal to defined critical values allowed the reader to compare risk factor prevalences between genders not only within specific populations, but also across populations. Figure 1 represents the page of the brochure that explained to readers how to interpret the scientific graphs. Figure 2 provides the results in the brochure for blood cholesterol. Risk factors were each defined in an introductory text. Graphs were presented separately by

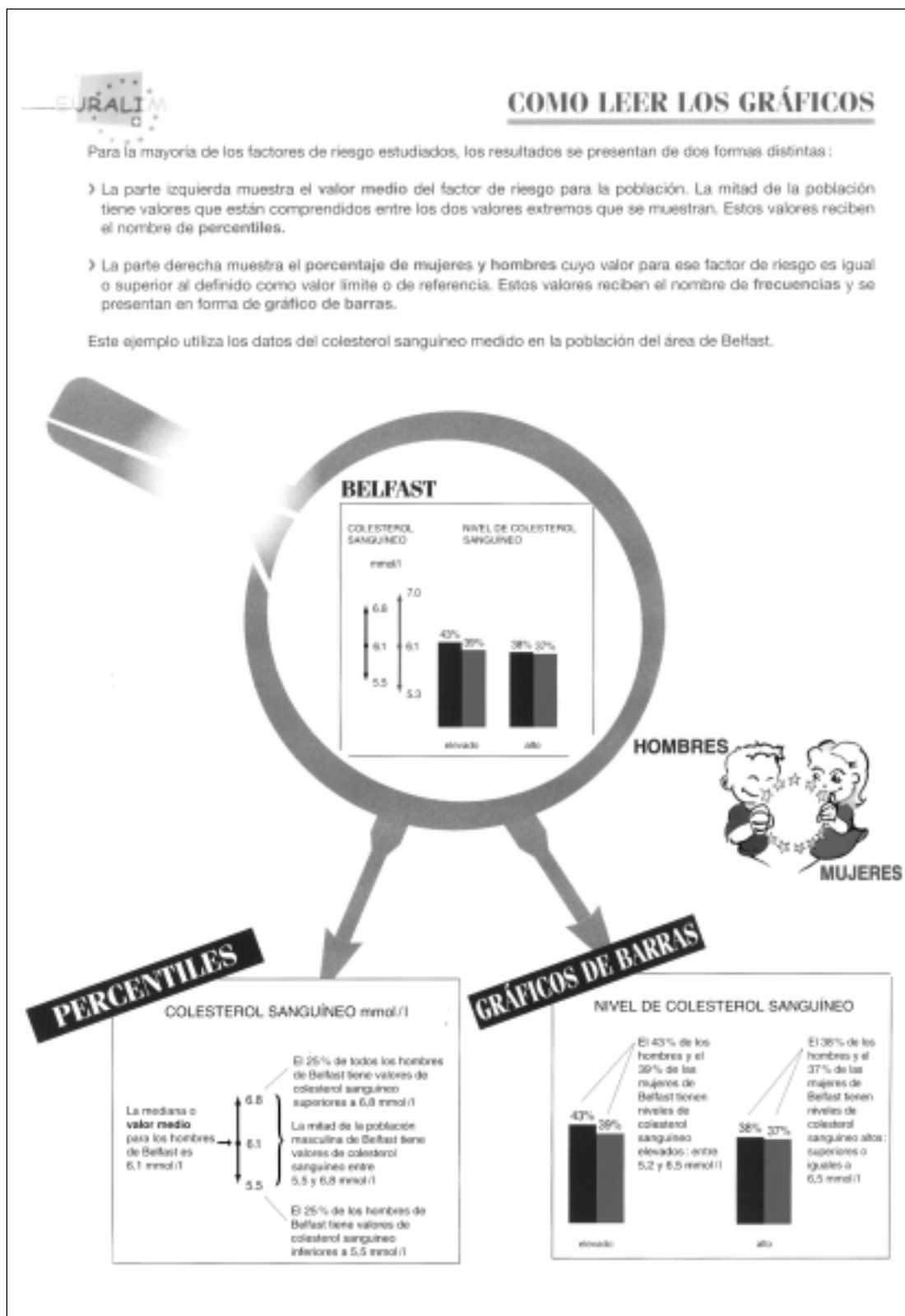
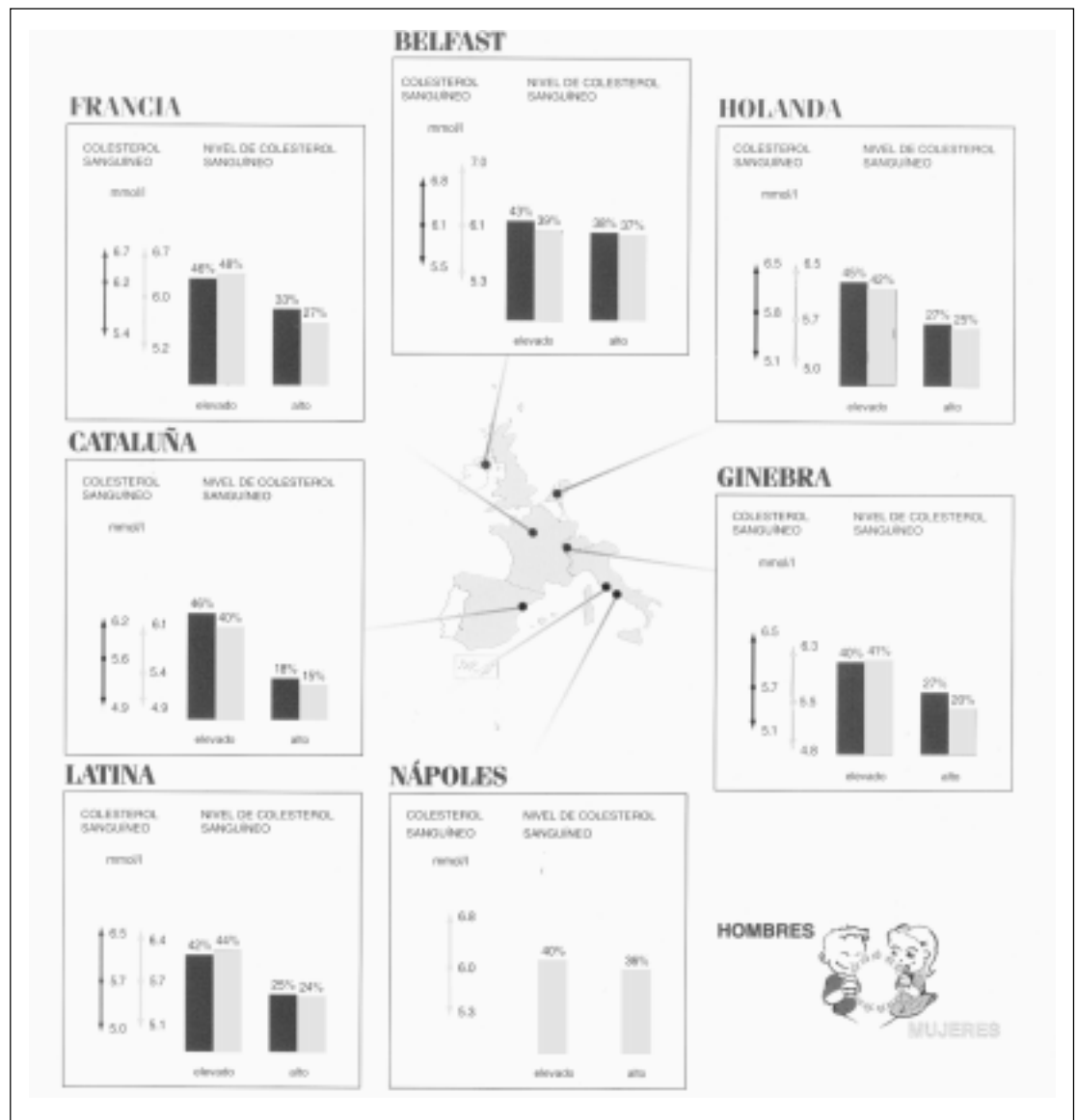


Figure 1. Explanation of percentiles and bar charts from the EURALIM general public brochure: "How to read the graphs"

Figure 2.
Blood cholesterol by study
population and gender
(men on the left, women
on the right): data from
the EURALIM general
public brochure



gender for each population along with their geographical location in Europe. Results for gender comparisons across populations were collectively summarised, followed by short prevention guidelines.

The evaluation of the project included statistics about the number of brochures distributed and the number of citations in the press, but most important, an evaluation questionnaire for public health professionals was developed and implemented. It contained 10 closed-ended questions with four response categories, each

followed by the open-ended question “why?”, to gain additional insight into the reasons for the given responses. Questions covered the degree of achievement of the project’s objectives, the graphical presentation used in the brochure, the complexity of the brochure, the interest of the general public in European comparisons of risk factor prevalences, and the usefulness of the brochure for public health professionals in their work. On a local level, the confidential questionnaires were coded to allow for additional analyses by public health professional categories.

The evaluation questionnaires were translated into seven languages and handed over as part of EURALIM KIT to 1,444 public health professionals and politicians in the seven specific study regions, as well as more broadly across the six participating European countries. These kits contained in addition to the evaluation questionnaire, brochures for the general public, a supplemental brochure for public health professionals with additional analyses and rationale for interpretation, and a pre-paid return envelop. Distribution of EURALIM KIT and the brochures were kicked off with a European public awareness campaign on May 19, 1998 (EURALIM Day). Each study group adapted the campaign to its local situation. In Italy, France, Spain, and Switzerland, press conferences were held on EURALIM Day, followed by an international press coverage. Public health professionals were asked in a letter to hand out the mailed brochures to the general public and to complete and return the provided evaluation questionnaire within six weeks. Recipients were followed-up with a reminder mailing after 4 weeks.

Data entry for closed ended questions was performed at the local level with a specifically developed template running under ACCESS version 7.0 for WINDOWS 95. The seven resulting ASCII data files were pooled at the data co-ordinating centre in Geneva, Switzerland. Central data analyses for closed ended-questions were performed using SAS software (Statistical Analyses system SAS 6.12. SAS Institute Inc., Cary NC, USA: 1996). Comparative frequencies were examined across study centres to determine if there were important differences in opinions of public health professionals across Europe.

Open-ended comments were analysed at the local level and results communicated to the data co-ordinating centre.

Results

The number of EURALIM KIT mailings ranged from 125 in Bilthoven, The Netherlands to 286 in Belfast, Northern Ireland/UK (Table 1). The recipients were broadly categorised as follows: politicians and heads of governmental departments for public health;

Table 1.
Mailed EURALIM KITS and returned evaluation questionnaires by country

Country*	Mailed Kits (N)	Returned questionnaires (N)	Response rate (%)
France	246	37	15
Italy (Latina)	139	35	25
Italy (Naples)	135	45	33
Spain	266	31	12
Switzerland	247	72	29
The Netherlands	125	17	14
United Kingdom	286	63	22
Total	1444	300	--
Mean \pm SD	206 \pm 70	43 \pm 19	21 \pm 8

*The baseline survey populations were not always representative of the entire country, but of a specific region or city.

Table 2.
Common evaluation by public health professionals from six European countries. Response frequencies by response category for two questions. (1) To what extent do you feel the following objectives of EURALIM were achieved? (a) To point out contrasts in the prevalence of risk factors between men and women from different European populations. (b) To motivate individuals to learn from other populations how to live more healthily. (2) EURALIM chose percentiles, relative frequencies and confidence intervals to present data to the general public and public health professionals. Did you generally understand the way data were presented?

Question	Response frequencies by response category (in %)				
	A great deal	Fairly well	Somewhat	Not at all	Don't know
(1a) Achieved to point out gender contrasts	24.3	63.3	10.3	0.7	1.3
(1b) Achieved to motivate individuals	8.0	26.7	44.7	15.7	5.0
(2) Generally understood data presentation	36.0	40.7	16.0	4.7	2.7

health league officials; board members of public health professional associations, public health organisations and associations, and health agencies; research and educational institution professionals, individuals of health institutions such as hospitals; general practitioners; health documentation centre employees; and industry representatives.

The average return rate of the evaluation questionnaire was 21%. The lowest response rate was obtained in Catalonia, Spain (12%), and the highest response rate was obtained in Campania, the region of Naples, Italy (33%) (Table 1). Politicians and representatives of governmental public health departments did not return their evaluation questionnaires as requested (on average 40 per site). Many did, however, send letters of recognition and encouragement. Excluding these mailings, the mean return rate for evaluation questionnaires was 28%. Analyses showed that health league officials and health professional association board members returned proportionally fewer questionnaires than did public health professionals working at health agencies or in research and educational institutions.

In each participating country, about 7,000 brochures were disseminated to the general public using public health professionals as intermediaries. An additional 3,000 brochures were distributed directly to public health professionals, the press, and politicians.

Results for selected closed-ended questions from the evaluation questionnaire are presented in Table 2, 3 and 4. Findings across sites were quite consistent. Overall, 63% of public health professionals stated that EURALIM was fairly successful in highlighting gender contrasts in risk factor prevalences across European populations; 24% stated that EURALIM was very successful (Table 2). About a third (36%) of public health professionals across European sites greatly understood the way the data were presented in the brochure (percentiles, relative frequency bar charts), 41% understood fairly well. Still, 21% of public health professionals had problems understanding the scientific presentation of data used (Table 2) and more than half (57%) considered the brochure to be either very complicated or complicated for the general public (Table 3). Public health professionals from the region of Naples, Italy differed from the

Table 3.
Evaluation by public health professionals from six European countries. Response frequencies by country and response category for the question: How would you rate the complexity of the brochure for the general public?

Response category	Response frequency (in %)						
	France	Italy (Latina)	Italy (Naples)	Spain	Switzerland	The Netherlands	United Kingdom
Very complicated	13.5	20.0	0	16.1	8.3	29.4	17.5
Complicated	43.2	48.6	15.6	48.4	44.4	52.9	58.7
Easy	37.8	31.4	84.4	32.3	40.3	11.8	15.9
Very easy	0	0	0	0	1.4	0	3.2
Don't know	5.4	0	0	3.2	5.6	5.9	4.8

Table 4.
Evaluation by public health professionals from six European countries. Response frequencies by country and response category for the question: How do you judge the interest of the general public in European comparisons of risk factor prevalence?

Response category	Response frequency (in %)						
	France	Italy (Latina)	Italy (Naples)	Spain	Switzerland	The Netherlands	United Kingdom
Very high	2.7	0	0	9.7	4.2	5.9	0
High	24.3	25.7	11.1	29.0	31.9	35.3	15.9
Low	56.8	60.0	84.4	41.9	44.4	29.4	69.8
Very low	8.1	8.6	4.4	9.7	6.9	23.5	11.1
Don't know	8.1	5.7	0	9.7	12.5	5.9	3.2

other sites in their assessment of the brochure's complexity (84% thought it was easy), but also in their estimation of the interest of the general public in European comparisons of risk factor prevalences (84% thought it to be low) (Tables 3 and 4). These somewhat different results may be related in part to the method of distribution, since in the region of Naples EURALIM KITs were distributed in-person and not mailed to public health professionals as in the other study sites.

The open-ended comments were insightful and similarly voiced across countries. Most public health professionals queried considered the brochure only suitable for the more highly educated subgroups of the populations. They requested more action-oriented guidelines and recommendations on how to improve the presented risk factor profiles within and across populations. It was also considered crucial to provide additional background information about the current health situation (e.g., morbidity and mortality rates) as well as about the socio-demographic characteristics and physical activity patterns of the participating populations.

Discussion

Considerable public health research has focused on the rates of cardiovascular disease and cancer in populations, as well as on the risk and protective factors related to these diseases. Interest is growing in continuously monitoring and comparing distributions of risk factors in different populations to provide public health professionals and the general public with information for promoting health¹⁴. The EURALIM project provided public health professionals and the general public with important gender contrasts in risk factor prevalences found within and across seven European populations. The participating Geneva study group¹¹ has previously presented their findings in the form of percentiles by gender and age groups at public events, e.g., a local consumer fair. Their experience showed that the general public is interested and understands such data shown if assistance in interpreting the graphs is given. Therefore, the EURALIM study group considered the use of a scientific approach for the general public brochure acceptable, provided that it is explained to the reader how to interpret the graphs.

The EURALIM public awareness campaign was structured to reach both, public health professionals and politicians involved in public health matters as well as the general public, using the public health pro-

professionals as mediators. Since these professionals were directly mailed the EURALIM KITs, and since we requested them to hand on the brochures to their clients (the general public), we considered them to be an appropriate target of our evaluation. None of the recipients was aware of the project at time of receipt of the kits yet they were asked to distribute brochures and to evaluate the received material in only six weeks.

The current results may be interpreted to mean that the brochure was more appropriately targeted for the public health professionals than the general public. A fifth of the responding professionals stated, however, that they themselves are not used to dealing with scientific data and felt challenged. Interestingly, in Campania, the region of Naples, Italy, the EURALIM KITs and brochures were personally handed out to about 100 general practitioners, and the complexity of the brochure was rated by more than 80% of them as "easy". Health professionals and the general public paid always great attention to the health problems of the inhabitants in this urban area, that has a reputation of being progressive in public health. Since general practitioners are the first line of health care for the population as a whole, they might provide the most valid information about the public's perception of health promotion material. Targeting them and in-person reinforcement may be an effective way to influence the larger public. The manner of distribution (mailing vs. personal hand out) needs to be considered in future investigations. For the given information campaign we cannot rule out that the in-person distribution in Campania led to biased results.

We assumed from the overall results that many of the queried public health professionals may have considered to be the only appropriate target of the brochure. The evaluation did not allow to follow up in detail if and how the brochures were handed over to the general public. Therefore, future evaluation should include a direct assessment of the general public's level of understanding of the brochure and compare it with that of the public health professionals. Such approach would tell us if we can rely on the perceptions of public health professionals, or certain subgroups of them, for material targeted to the general public.

The evaluation revealed a general need to enhance awareness among public health professionals about the importance of continuous risk factor surveillance and its key role in health promotion. It also revealed a gap between the intended aim of EURALIM (a public awareness and information campaign) and the needs of public health professionals (ready-to-use

interventions and education programs). A different approach has to be developed to meet requests from three sides, epidemiologists, public health professionals and the general public.

The achieved average return rate of 21% for the evaluation questionnaire is about that expected for a blind mailing. However response rates may have been improved under different conditions. The evaluation was time-wise and financially only a small part of a rather short term research project and had to be conducted in summer season, when many public health institutions were not able to co-operate due to summer break. The present findings likely reflect the view of a select group of public health professionals. Public health professionals that meet frequently with the general public (e.g. at local health consulting agencies) as well as those being involved actively in public health research and education, felt obviously more concerned and returned more often their evaluation questionnaires. Moreover, large numbers of brochures were distributed to individuals already sensitive to public health matters (such as members of public health associations, subscribers of public health journals), reflecting that the term "general public" was perceived differently by EURALIM participants and certain groups of public health professionals. However, the consistency of responses across study centres suggest two more likely explanations that are rather reassuring with respect to the interpretation of the present findings. Either, the selection bias was identical in the various populations and therefore the evaluation survey is internally valid, and the results can be compared across sites, or the selection of one out of five public health professionals to whom the evaluation questionnaire was sent occurred at random. In the latter situation, the survey would be both internally and externally valid. This homogeneity criterion is an additional advantage of international over local evaluations.

We conclude that the brochure was better formatted for public health professionals than for the general public. We cannot rule out, however, that public health professionals underestimated the interest and ability of the general public to study a brochure comparing scientific data on nutrition across Europe. Hence, a direct evaluation at this level is necessary to better gauge its success and complexity for the general public. Evaluation is a costly yet critical component of international prevention campaigns and requires time and resources to properly judge their effectiveness. Homogeneity of the response distributions is an important criterion to determine the validity of the evaluation, if participation is low.

Acknowledgement

We thank the following persons for their valuable contribution to the project: Sonia Billard (Geneva, Switzerland); Egidio Celentano (Naples, Italy); Maria Fenicia Vescio and Fabio Pannozzo (Rome, Italy).

EURALIM was funded by the European Community (DG V), project 96CVVF3-446-0 and the Swiss Federal Office for Education and Science, OFES 96.0089.

References

1. Platt S, Tannahill A, Watson J, Fraser E. Effectiveness of antismoking telephone helpline: follow up survey. *BMJ* 1997;314:1371-5.
2. Van Wechem SN, Brug J, van Assema P, Kistemaker C, Riedstra M, Lowik MR. Fat Watch: a nationwide campaign in The Netherlands to reduce fat intake - effect evaluation. *Nutr Health* 1998;12:119-30.
3. Van der Feen de Lille JC, Riedstra M, Hardeman W, Wedel M, Brug J, Pruyn JF, *et al.* Fat Watch: a nationwide campaign in The Netherlands to reduce fat intake - process evaluations. *Nutr Health* 1998;12:107-17.
4. The EURALIM Study Group, eds. NUTRITION & THE HEART. Healthy Living in Europe. Geneva, European Communities, 1998.
5. Beer-Borst S, Morabia A, Hercberg S, Vitek O, Bernstein MS, Galan P, *et al.* Obesity and other health determinants across Europe: The EURALIM Project. *J Epidemiol Comm Health* 2000;54:424-30.
6. Beer-Borst S, Hercberg S, Morabia A, Bernstein MS, Galan P, Galasso R, *et al.* Dietary patterns in six European populations: Results from EURALIM, a collaborative European data harmonisation and information campaign. *Eur J Clin Nutr* 2000;54:253-62.
7. Hercberg S, Preziosi P, Briancon S, Galan P, Paul-Dauphin A, Malvy D, *et al.* A primary prevention trial using nutritional doses of antioxidant vitamins and minerals in cardiovascular diseases and cancer in a general population: The SU.VI.MAX Study. Design, methods and participant characteristics. *Control Clin Trials* 1998;19:336-51.
8. Giampaoli S, Poce A, Sciarra F, Lo Noce C, Dima F, Minoprio A, *et al.* Change in cardiovascular risk factors during a 10-year community intervention program. *Acta Cardiol* 1997;52:411-22.
9. Panico S, Dello Iacovo R, Celentano E, Galasso R, Muti P, Salvatore M, *et al.* Progetto ATENA, a study on the etiology of major chronic diseases in women: design, rationale and objectives. *Eur J Epidemiol* 1992;8:601-8.
10. Serra-Majem L, Ribas L, Ramon JM. Compliance with dietary guidelines in the Spanish population. Results

- from the Catalan Nutrition Survey. *Br J Nutr* 1999; 81:S105-S112.
11. Morabia A, Bernstein M, Heritier S, Ylli A. Community-based surveillance of cardiovascular risk factors in Geneva: methods, resulting distributions, and comparisons with other populations. *Prev Med* 1997;26:311-9.
12. Verschuren WMM, van Leer EM, Blockstra A, Seidell JC, Smit HA, Bueno de Mesquita HB, *et al.* Cardiovascular disease risk factors in The Netherlands. *Neth J Cardiol* 1993;4:205-10.
13. Evans AE, Ruidavets JB, McCrum EE, Cambou JP, McClean R, Dousteblazy P, *et al.* Autres pays, autres coeurs - Dietary patterns, risk-factors and ischemic heart disease in Belfast and Toulouse. *QJM Monthly* 1995;88:469-77.
14. Morabia A. From disease surveillance to the surveillance of risk factors. *Am J Public Health* 1996;86:625-7.

