A Sustainable, Active, Primary Prevention Strategy for Cardiovascular Diseases in Italy for Adults 50+ 'Projects Cuore and Cardio 50' Italy

Title in original language:

Programma organizzato di screening del rischio cardiovascolare finalizzato alla prevenzione attiva nei soggetti cinquantenni- "Projects Cuore and Cardio 50"

Which 'life stage' for CVDs prevention targets the intervention?

Adulthood (50 years old subjects, males and females)

Short description of the intervention:

Aims:
1) To implement a national cardiovascular register
2) To describe risk factor distributions (health examination survey)
3) To estimate the cardiovascular risk of the Italian population and to implement the evaluation of cardiovascular risks in clinical practice
4) To evaluate through active call- , parameters and lifestyle of an asymptomatic population
5) To implement the primary prevention programme (counselling on smoking cessation, healthy diet, physical activity)

Target group: Asymptomatic men and women, aged 50 years, resident of the Local Health Authority involved, were invited to join a cardiovascular disease prevention programme through active call.

Design/methods: The Model, tested in two preventive studies in Veneto (*Epidemiol Prev* 2014; 38(1): 38-45,) forecast that the Screening Centre (SC) of the Prevention Department, in collaboration with GPs and Sanitary District, is in charge of the organization of the entire programme. The SC prepares the list of residents and the GPs apply and define the criteria for exclusion and select eligible subjects. Selected subjects are called for a visit (with eventual recall in case of non-response)

Group A: no behavioural risk factors, regular parameters; Group B: behavioural risk factors and regular parameters; Group C: new hypertension and new hyperglycaemia subjects independent from behavioural risk factors; Group D: not eligible subjects

Based on the interview results and the patient's health conditions, the Health Operator does motivational counselling and proposes specific preventive interventions. The health courses are organised with GPs, local authorities, cultural and voluntary associations and consist in: no smoking groups, walking groups, nutritional groups and individual nutritional counselling. All participants are evaluated through a lifestyle questionnaire. Parameters such as blood pressure (BP), glycaemia, waist circumference and body mass index are collected and recorded with a specific program (cuore.exe) that allows a preventive health balance and divide subjects into different risk groups. In addition to cuore.exe, a calculation of physical activity has been proved to be one of the best prevention factors in CVDs. A model to compare/ integrate screening results with those of the ISS risk chart is to be prepared.

Was the design of the intervention appropriate and built upon relevant data, theory, context, evidence, previous practice including pilot studies?

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Scientific evidence has reinforced the importance of preventive interventions designed to prevent or delay the onset of CVD through the adoption of healthy lifestyles. In particular a correct diet, regular physical activities and elimination of smoking. This is true not only for groups of people with high cardiovascular risk, but also at population level, implementing interventions aimed to all those at risk in order to reduce or control CVD. Taking into consideration the population in all age groups is an approach to promote a healthy and active aging which is a priority of public health in the European Region as part of the new policy of the European reference for the health and well-being, Health 2020. To quit smoking, increased physical activity and improving the levels of education, along with early detection and treatment of diabetes and hypertension reducing levels of obesity, may be a contribution also to the prevention of the cognitive functions of the elderly, also in relation to Alzheimer's disease. The model was tested in two pilot studies in Veneto (Epidemiol Prev 2014; 38(1): 38-45,) with satisfactory results

Did the design thoroughly describe the practice in terms of purpose, SMART objectives, and methods?

The aims are SMART (specific, measurable, achievable, realistic and timed)
1) To implement a national cardiovascular register
2) To describe risk factor distributions (health examination survey)
    3) To estimate the cardiovascular risk of the Italian population and to implement the evaluation of cardiovascular risks in clinical practice
4) To evaluate through active call parameters and lifestyle of an asymptomatic population
    5) To implement the primary prevention programme (counselling on smoking cessation, healthy diet, physical activity)
Methods: Asymptomatic men and women, aged 50 years, residents of the Local Health Authority involved, were invited to join a cardiovascular disease prevention programme through active call by the Screening Centre of the Prevention Department, in collaboration with GPs and the Sanitary District.
All participants are evaluated through an administered lifestyle questionnaire and physical parameters are collected and recorded to divide the subjects into different risk groups.
Based on the interview results and the patient's health conditions, the Health Operator does motivational counselling and proposes specific preventive interventions. Specific interventions are standardized. The subjects with unhealthy lifestyles (class B) were invited for health counselling and reassessed after 6 months and 1 year.

To which type of interventions does your example of good practice belong to?

Policy/strategy. The National Prevention Plan 2014-2018 intend to test the feasibility and to start the program in all regions by 2018 (Development of programs / interventions, aimed at encouraging the adoption of active lifestyles in the population) and therefore this goal has been dismissed in the Regional Prevention Plans. The risk evaluation is developed at national level; the primary prevention programmes, at the moment, are active at regional level (12/20 regions involved).

How is this example of good practice funded?

National/regional/local government. The programme is funded by CCM (National Centre for Disease Prevention and Control). Its task is to liaise between the Ministry of Health on one hand, and regional governments on the other with regards to surveillance, prevention and prompt response to emergencies. An effective partnership is in place: the health courses are organised with the collaboration of GPs, local authorities, cultural and voluntary associations.

What is/was the level of implementation of your example of good practice?

Regional. This programme is now implemented in 12 Italian Regions and it is inserted in their Regional Prevention Plan strategies. The aims are to extend the primary prevention intervention at national level.

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What are the main aim and the main objectives of your example of good practice?

1) To implement a national cardiovascular register (http://www.cuore.iss.it/valutazione/valutazione.asp)
2) To describe risk factor distributions (health examination survey) (www.cuore.iss.it/fattori/popolazione.asp)
3) To estimate the cardiovascular risk of the Italian population and to implement the evaluation of cardiovascular risks in clinical practice
4) To evaluate through active call, parameters and lifestyle, of an asymptomatic population
5) To implement a structured primary prevention program (counselling on smoking cessation, healthy diet, physical activity)

Please give a description of the problem the good practice example wants to tackle:

In Europe and in Italy, CVD represent a problem of public health, both in terms of mortality (in Italy 31.2% x 100.00 residents), morbidity and disability (in Europe cardiovascular diseases DALYs=17.4)
Scientific evidence has reinforced the importance of preventive interventions designed to prevent or delay the onset of CVD through the adoption of healthy lifestyles; in particular a correct diet, regular physical activities and elimination of smoking. This is true not only for groups of people with high cardiovascular risk, but also at population level, implementing interventions aimed to all those at risk in order to reduce or control CVD.
In addition, the WHO points out that the change of some risk factors at population level can lead to substantial changes in the risk profiles. A fundamental element for prevention is the identification of those at risk. Due to the weight of the epidemiological data cited above, there is a low public perception of the risk for CVD and a lack of information on predisposing factors.
In the Italian National Health Service (NHS) there are many experiences of active programs of population, such as vaccination or cancer screening; based on the positive results obtained from these programs we can assume that, with suitable modifications, the same organizational model can also be applied to the prevention of CVD
Taking into consideration the population in all age groups is an approach to promote a healthy and active aging which also is a priority of public health in the European Region as part of the new policy of the European reference for the health and well-being, Health 2020. To quit smoking, increased physical activity and improving the levels of education, along with early detection and treatment of diabetes and hypertension reducing levels of obesity, may be a contribution also to the prevention of the cognitive functions of the elderly, also in relation to Alzheimer's disease.

Is your example of good practice embedded in a broader national/regional/ local policy or action plan?

Yes. At National level the project focused on the delivery of a "risk map" through GPs. With the active call by the Departments of Prevention it is intended to activate a way of integrated care between different levels of care (Prevention Department, MMG-District Hospital) regarding the contrast of the modifiable risk factors (poor diet, smoking, sedentary lifestyle) and to increase the knowledge and perception of cardiovascular risk in the general population. The National Prevention Plan 2014-2018 intend to test the feasibility and to start the program in all regions by 2018 (Development of programs / interventions, aimed at encouraging the adoption of active lifestyles in the population) and this goal has been included in the Regional Prevention Plans.

Implementation of your example of good practice is/was:

Periodic: the cardiovascular register and the population risk assessment is active from 1998. The active prevention programme is part of the project POPAC (an extensive Programme for Active Cardiovascular Prevention), that started in January 2009 and is still being implemented. The objective is to make it become an action system.

Target group(s):

Asymptomatic men and women, with the age of 50 years, residents of the Local Health Authority involved, were invited to join a cardiovascular disease prevention programme. This programme aims to develop resources and empowerment in the target population.

During implementation, did specific actions were taken to address the equity dimensions?

This is a community programme, there aren't specific objective for vulnerable social groups

In design, did relevant dimensions of equity were adequately taken into consideration and targeted?

This is a community intervention: all 50 years old residents of the Local Health Unit are invited. The Local Health Units are distributed in both rural and urban areas and cover the whole regional territory.

Did the intervention have a comprehensive approach to health promotion addressing all relevant determinants, and using different strategies?

Yes, the intervention aims to address subjects' health behaviours that are clearly related to social, environmental and interpersonal determinants.

Was an effective partnership in place?

An effective partnership is in place between the Prevention Department, District-GPs, hospitals, local authorities, cultural and voluntary associations. With the active call by the Departments of Prevention it is intended to activate a mode of integrated care between different levels of care (Prevention Department, MMG-District Hospital), regarding the contrast of the modifiable risk factors. . The results of the preliminary study carried out in Veneto confirm the feasibility of the program

Was the intervention aligned with a policy plan at the local, national, institutional and international level?

The intervention is aligned with The National Prevention Plan 2014-2018 (that intend to test the feasibility and to start the program in all regions by 2018) and therefore this goal has been included in the Regional Prevention Plans.

Was the intervention implemented equitably, i.e. proportional to needs?

Yes, because it is addressed to a specific population segment (50 years old subjects)

Were the intervention's objectives and strategy transparent to the target population and stakeholders involved?

Yes, the intervention's objectives and strategy are clearly described to the target population, to GPs and to the whole community

Did the evaluation results achieve the stated goals and objectives?

We have only preliminary results, but the preventive studies have reached satisfactory results

Who did the evaluation?

An internal party (representatives of the intervention, own organisation)

Specifically, what has been measured / evaluated?

Process evaluation: The process evaluation measures

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- number of active call respondents
- number of FU respondents
- number of activated counselling sessions
- list of proposed activities for risk factors control (e.g. walking group…)
- number of working groups interdisciplinary meetings
- participants satisfaction

Complete data are not yet available.

Evaluation of the impacts/effects/outcome:

- All participants are evaluated through a lifestyle questionnaire. Parameters such as blood pressure (BP), glycaemia, waist circumference and body mass index are collected and recorded with a specific program (cuore.exe) that allows a preventive health balance and to divide subjects into different risk groups.
- Glycaemia: the use of a glucose stick through three types of determinations: fasting, postprandial, random.
- Cholesterol: was carried out on only a small percentage of patients as the use of a stick was not considered reliable, it was reported on the data sheet the value of cholesterol of those persons who at the time of the visit brought recent exams with them (not older than 3 months).
- Nutrition: two parameters were considered, fish consumption and the consumption of fruit and vegetables.
- Physical activity: measurement and evaluation of physical activity was performed by using an algorithm according to the international physical activity questionnaire IPAQ.
- Complete data are not yet available; we have only the data for the Veneto region.

What are the main results/conclusions/recommendations from the evaluation?

The results suggest that a preventive program based on the active call of the population by the Department of Prevention could be an effective tool to identify asymptomatic individuals with unknown hypertension and/or hyperglycaemia and to offer lifestyle interventions to lower the risk of cardiovascular diseases. A peculiarity of the project is the organizational aspect, it is a network between National Health Service structures (SSN)and staff, local health authorities and voluntary services. The Prevention Department works closely with GPs, offering programs of health promotion, prevention and address the hypertensive and/or hyperglycaemic subjects in suitable clinical studies.

The following data refer to the Veneto Region. We have not yet data regarding the extension of the programme to the 12 Italian regions involved.. The adherence to the project is rather high (60.8%, 17.004 subjects), given that it requires the availability of time to access the centre where the interviews and counselling are taking place. According to the data collected, the female population gives greater attention to their health and prevention initiatives (51,2% vs 48.8%). 44,5 % of the population did not adhere to the project and this high percentage requires subsequently targeted studies in order to identify the reasons. The program highlights an interesting fact in the analysis of the classes: only 24% of the respondents are class-A (no risk factors), 56% are class B while class C, basically characterized by subjects with hypertension and/or hyperglycaemia, result in 12% of the population. The model, therefore, proposes the theme on the medicine initiative introduced in the last national plan of prevention. The program allows identifying in an early stage subjects with hypertension and/or high values of blood sugar, that otherwise would have come to the attention of GPs in a later stage. 6% of the contacted subjects are not eligible (class D): this could be the result of a misclassification in the selection process or a non-completeness of the data-base of MMG. This underlines the need for personal contacts and interviews for a more accurate framing. Regarding to the lifestyles observed, 33, 4% had a sedentary lifestyle, 20% were smokers and 50% were overweight. The subjects with unhealthy lifestyles were invited for health counselling and reassessed after 6 months and 1 year. The follow up (FU) evaluation shows that there has been a statistically significant improvement

of physical activities, BMI, and the number of smokers decreased. However, the evaluation of initiatives to change lifestyle (especially the changes in diet and physical activity) needs a long time of work and an appropriate FU.

Is the evaluation report available, preferably in English or at least an English summary?

A partial evaluation report (only Veneto region) is available in Italian (with English summary)
- Ferro A, Cinquetti S, Moro A et al. Preventing cardiovascular diseases through a screening modelling applicable to wide population group: Results from the first phase of the project. Epidemiol prev 2014; 38(1): 38-45)

Was there a follow-up or is any follow-up evaluation planned in the future?

The subjects with unhealthy lifestyles (class B) were invited for health counselling and reassessed after 6 months and1 year. The FU adhesion was 50%. The FU evaluation shows that there has been a statistically significant improvement of physical activities, BMI, the number of smokers decreased. However, the evaluation of initiatives to change lifestyles (especially the changes in diet and physical activity) needs a long time of work and an appropriate follow-up.

Who implemented the intervention?

The project "Cuore" was conducted at a national level by the Istituto Superiore di Sanità. The Cardio 50 Project involves 12 Italian Regions, coordinated by the CCMR-Veneto. An effective partnership is in place between the Prevention Department, District-GPs, Hospitals, local authorities, cultural and voluntary associations. The working group is composed by: Screening Centre Operators, General Practitioners, Health Operators and cultural and voluntary associations (only for walking group organization)

What core activities are/have been implemented?

The program of screening of cardiovascular risk is divided as follows:
1. Pre-evaluation by general practitioners (GPs) to sort the lists according to the criteria for exclusion (history of cardiovascular and cerebrovascular events, diabetes, hypertension, severe neoplastic diseases, long-term care , institutionalization);
2. Active call of the subjects by the Screening Centre of the Local Health Unit
3. Screening visit performed by a Health Assistant/Nurse Professional (or other health staff duly formed), at the Department of Prevention or in other regional offices;
4. The classification of the subject in risk groups
5. Proposal of specific interventions for the risk groups. Participants receive
   - counselling,
   - informative materials on lifestyles
   - are invited to health promotion initiatives (individually or in groups) in relation to the personal risk factors.

Did the intervention achieve meaningful participation among the intended target population?

The intervention is based on the participation of the population (the subjects are invited to the screening visit, to the different interventions and to the follow up)

Did the intervention develop strengths, resources and autonomy in the target population(s)?

Yes, the intervention increases health related knowledge and empowerment of the subjects and their family

Was the target population/s defined on the basis of needs assessment including strengths and other characteristics?

Yes. 50 years old people are a high risk population for cardiovascular diseases and are a strategic target for behavioural risk factor intervention. Taking into consideration the 50 years old population can help to promote a healthy and active aging which is a priority of public health in the European Region (Health 2020)

Was the engagement of intermediaries/multipliers used to promote the meaningful participation of the target population?

Yes, General Practitioners and cultural and voluntary association members act as key intermediaries

Is the continuation of the intervention ensured through institutional ownership that guarantees funding and human resources and/or mainstreamed?

Yes, the intervention is inserted in the National Prevention Plan 2014-2018 and in the Regional Prevention Plans of the involved Regions.

Is there a broad support for the intervention amongst those who implement it?

Yes. There is support among GPs, local authorities, cultural and voluntary associations

Did the intervention include an adequate estimation of the human resources, material and budget requirements in clear relation with committed tasks?

The intervention use Local Health Units and GPs resources, that are "system resources" (National Health System)

Were organisational structures clearly defined and described?

Yes.
1. the Screening Centre prepares the list of residents
2. pre-evaluation by general practitioners (GPs) to sort the lists according to the criteria for exclusion
3. active call of the subjects by the Screening Centre of the Local Health Unit
4. screening visit performed by a Health Assistant/Nurse Professional (or other health staff duly formed), at the Department of Prevention or in other regional offices;
5. specific interventions for the risk groups, organized by Local Health Unit with the collaboration of GPs, local authorities, cultural and voluntary associations.

Is the potential impact on the population targeted assessed?

The test of scalability is currently underway in both the project cardio 50 that in the National Prevention Plan

Are there specific knowledge transfer strategies in place?

The knowledge transfer strategy is the website CUORE with national and local journal articles, informative materials on lifestyle

What were, in your opinion, the pre-conditions for success? Were there any facilitating factors?

The pre-condition for success are the organizational aspects:
- it is a network between SSN structures and staff, local authorities and voluntary services.
- The Prevention Department works closely with GPs, offering programs of health promotion and prevention and address the hypertensive and/or hyperglycaemic subjects in suitable clinical studies.
- The working group must be a multidisciplinary group with GPs, health operators and staff from the Screening centre

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What were, in your opinion, the main lessons to be learned?

The results confirm that a preventive program based on an active call of the population by the Department of Prevention could be an effective tool to identify asymptomatic individuals with unknown hypertension and/or hyperglycaemia and to offer lifestyle interventions to lower the risk of cardiovascular diseases. In summary, the data available today offer positive results to extend the model and at the same time invite to proceed with further investigation.

Web page related to the intervention

http://www.cuore.iss.it

References to the most important articles or reports on the intervention

- Palmieri L, Donfrancesco C, Giampaoli S et al. Favorable cardiovascular risk profile and 10-year coronary heart disease incidence in women and men: results from the Progetto CUORE. Eur J Cardiovasc Prev Rehabil 2006;13(4):562-70.
- Ferro A, Cinquetti S, Moro A et al. Preventing cardiovascular diseases through a screening modelling applicable to wide population group: Results from the first phase of the project. Epidemiol prev 2014; 38(1): 38-45

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