



Research Article

No Smoke Centers in Italy: Critical Issues & Perspectives

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Abstract

Background

Smoking is one of the greatest public health problems worldwide and is one of the major risk factors in the development of neoplastic, cardiovascular and respiratory diseases. Public Health Experts and Regulatory Authorities around the world have planned actions aimed at discouraging the start of smoking among young people and to support cessation in accordance with the indications of the current guidelines. Unfortunately, in many countries, despite the effectiveness of the scientific approach, the results relating to cessation do not seem flattering. The situation of the No smoking organization and the No smoking Centers (CAF) in the main European countries is quite uneven. The aim of this research was to document the different organizational methods for the containment of smoking in Italy and in the main European countries and to calculate the potential level of cost-effectiveness of the CAFs in Italy.

Methods

The theoretical methods used were analysis and synthesis, comparative and inductive deduction. Literature research was used as an empirical method. We analyzed the number and institutional membership of CAFs between 2018 and 2021 and the professional roles who work at CAF referring to public structures in Italy. Data were extracted from the report on CAF issued by the National Institute of Health (ISS). An economic enhancement was subsequently made to the various professionals involved in Public Health which the 268 Italian CAFs belong to, based on the Gross Annual Income (RAL), officially defined by the national category contracts, on the total of professionals working in health facilities which the CAF refer to, and on the head counts actually dedicated to the CAF activities.

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Results

In order to estimate the cost-effectiveness of CAFs in Italy, the available information regarding the whole composition of the CAF teams was used, which can be obtained from the total of the 268 centers with 950 employees, for a total average of 3.53 head-counts per team. The average annual cost of a team per single healthcare facility which the 268 CAFs refer to was equal to € 201,674.50, while the assumed cost for the head counts actually dedicated to each individual CAF was equal to € 99,994.53. Proportionating this latter annual labor cost to the use of 3.53 head counts, the total effective cost borne by the NHS, for all CAFs, is equal to € 26,798,533.24. By dividing this global figure by a theoretical global turnout of 13,000 smokers per year, we would have a cost of 2,061€ per smoker.

Conclusion

The review of the organizational situation for the containment of smoking in the main European Nations, including Italy, is showing an unevenly distribution of tools for supporting smoking cessation which makes it very unlikely to meet the ambitious goals of the latest European Beating Cancer Plan. Our analysis indicates a decidedly unfavorable cost/effectiveness ratio of CAFs in Italy. The cost of the current smoking cessation strategy suggests that the system is even less efficient when we consider that tobacco addiction is relapsing by definition. The limited use of CAFs by smokers and their high cost per cessation obtained clearly indicate that the current organization should be rethought in order to provide an effective and sustainable response for Public Health.

Keywords: CAF; Cost-effectiveness; Italy; No smoke centers; Public health

Introduction

Smoking is one of the greatest public health problems worldwide and is one of the major risk factors in the development of neoplastic, cardiovascular and respiratory diseases. Cigarette smoking causes more deaths than alcohol, AIDS, drug abuse, traffic accidents, homicides and suicides combined and are a known or probable cause of at least 27 diseases, including chronic obstructive pulmonary disease and other pulmonary chronic pathologies, lung cancer and other kind of cancer, heart diseases, vascular diseases [1-6].

According to World Health Organization (WHO) data, tobacco smoking is the greatest threat to health and the first risk factor for chronic non-communicable diseases worldwide, with about one billion smokers, of which about 80% live in low- and middle-income countries. 70% of consumers start smoking before 18 years and 94% before 25 years of age [7].

The WHO estimates that every year, worldwide, more than 8 million people die from tobacco consumption but smoking can also be deadly for non-smokers: exposure to secondhand smoke causes 1.2 million deaths every year [7].

Even in the European Union, tobacco consumption is the largest avoidable risk factor for health, and is responsible for 700,000 deaths every year [8].

In Italy it is estimated that over 93,000 deaths are attributable to tobacco smoking (20.6% of the total deaths among men and 7.9% of the total deaths among women) with direct and indirect costs amounting to over 26 billion euros. As far as cancer is concerned, tobacco is the risk factor with the greatest impact with at least 43,000 annual deaths which are attributable to [8-9].

Given the seriousness of the situation, Public Health Experts and Regulatory Authorities around the world have planned actions aimed at discouraging the start of smoking among young people and to support cessation in accordance with the indications of the current guidelines [10]. Unfortunately, in many countries, despite the effectiveness of the scientific approach, the results relating to cessation do not seem flattering.

Although it is widely known that smoking cessation represents a highly cost-effective measure, such action must be implemented through tools and organizations whose cost does not negatively impact this favorable relationship [11-16].

The situation of the No Smoking organizations and the No Smoking Centers (CAF) in the main European countries is quite uneven. In the UK there are numerous CAF available throughout the country that is part of the National Health System (Local Stop Smoking Service - LSSS). They were first organized in 1999/2000 and provide personalized support (including behavioral and pharmacological aids). However, over the years there has been a progressive budget cut (in the last 5 years, at the rate of 1/3 per year by the various local authorities) which makes it difficult to know precisely how many total centers are actually active at the present [17-18]. An online service is available to find the LSSS closest to your residence [19].

In France there is the Tabaco info service. The Tobacco Information Service is a quitting information and help system that answers all questions about smoking and quitting. The Tabaco info service also offers free personalized support, provided by the tobacco specialists by telephone. Tabaco info service is also available online on the website and on Facebook or on the application of the same name, created by health insurance [20].

In Germany there are no public health CAF but only private ones. Supports and programs to quit smoking are also mainly entrusted to private insurance companies. However, the Federal Center for Health Education (BZgA) performs this task at the federal level as a specialized authority within the portfolio of the Federal Ministry of Health (BMG) and provides a free and online smoking cessation program [21].

In Spain there are Municipal tobacco addiction support centers that provide smoking cessation health care to those smokers who are referred from primary care centers, specialist care and from several hospitals. For example, the Comunidad de Madrid has a specialized smoking unit, a smokers' helpline and provides online cessation programs (La Paz-Carlos III Hospital, with a free remote assistance program) [22].

In the Netherlands there are no anti-smoking centers of the National Health System and the issue is handled at an insurance level. Pharmacotherapy is only insured within behavioral pathways by the National Cancer Institute's Smoking Cessation Clinics [23] and there is a free site to support those who want to try to quit [24].

In Belgium the reference for quitting smoking is Tabac Stop and there are 248 Smoking Assistance Centers (CAF) [25-27].

In Austria there are no CAF of the health system. Several Austrian health insurers offer their policy holders the opportunity to participate in in-patient smoking cessation treatment, and information is available to support quitting [28].

Finally, in Italy, CAFs were established in the late '80s as part of global interventions aimed at supporting the fight against tobacco smoking with particular attention to helping smokers who intend to quit. The Italian CAFs are active within the National Health System (SSN) assisted by non-governmental organizations. They provide services that offer specialist support to help smokers quit. Generally, access is available upon payment of a health ticket or free of charge. Among the services offered there are pharmacological interventions, individual or group counseling, alternative therapies with a first evaluation of the smoker from a medical and/or psychological point of view [29].

Therefore, we decided to assess as objectively as possible the activity of the Italian CAFs which appear, despite all the actions implemented, and not attended very much by smokers.

The aim of this research was to document the different organizational methods for the containment of smoking in Italy and in the main European countries and to calculate the potential level of cost-effectiveness of the CAFs in Italy.

Methods

The theoretical methods used were analysis and synthesis, comparative and inductive deduction. Literature research was used as an empirical method.

We analyzed the number and institutional membership of CAFs between 2018 and 2021 (Table 1) and the professional roles who work at CAF referring to public structures in Italy (Table 2). Data were extracted from the report on CAF issued by the National Institute of Health (ISS) [30-31].

Membership	2018 (no.)	2021 (no.)	Δ (%)
National Health System (SSN)	301	224	-26
LILT	60	42	-30
Private social	4	2	-50
Total	365	268	-27

Table 1: Anti-smoking Centers (CAF) in Italy.

Professional roles	2018 (%)	2021 (%)	Δ (%)
Physicians	32	29	-9.3
Nurses	22	22	=
Psychologists	24	21	-12.5
Health social workers	3	6	+100
Educators	8	10	+25
Administrative personnel	3	5	+66.6
Sociologist	1	0	-100
Others	7	7	=

Table 2: Professionals working for CAFs in Italy (total number of professionals 800 & 950 respectively in 2018 and 2021).

An economic enhancement was subsequently made to the various professionals involved in Public Health which the Italian CAFs belong to, based on the Gross Annual Income (RAL), officially defined by the national category contracts [32], on the total of professionals working in health facilities which the CAFs refer to (Table 3) and on the head counts actually dedicated to the CAF activities (Table 4).

Professionals	RAL (€) ‡	RAL + company cost (31%)(€)	No. professionals in 268 Health structures
A - Physician	75,000	98,250.00	275.5
B - Nurse	26,400	34,584.00	209
C - Psychologist	30,600	40,086.00	199.5
D - Health/social worker	21,200	27,772.00	
E - Health worker	18,000	23,580.00	
F - Social worker	24,300	31,833.00	
G - Admin. employee	24,300	31,833.00	
H - Mean of di D-E-F-G	21,950	28,750.00	266
Total professionals			950
Team annual cost/ single health structure § (A+B+C+H)		201,674.50	

Table 3: Mean annual cost of a team for single health structure, based on the total of 950 professionals working in the CAF (no. 268) health structures, in Italy (31).

§ For 1760 hours/year (40 hours/week for 220 working days).

‡ Mean salaries in Italy in 2021 (available online) (33).

Results

CAF in Italy represent one of the Institutional cornerstones of the fight against smoking. On the basis of the latest updated data of May 2021, the CAFs surveyed in Italy by the ISS are 268, of which 224 (83.5%) belonging to the NHS, 54 (20.1%) to the Italian League for the fight against cancer (LILT), and 2 (0.7%) to the private sector (31).

61% of services are located in the North, 17% in the Center and 22% in the South and the Islands. The CAF teams globally include about 950 professionals distributed as follows: 29% physicians (no.=275.5), 22% professional nurses (no.=209), 21% psychologists (no.=199.5) and then professional educators, social and administrative workers (for a total of 266 Professionals) [31].

The cessation pathways offered by the CAFs are mainly characterized by an integrated multimodal approach which sees in individual counseling (87%) the most proposed intervention in association with drug therapy (79%), group psychotherapy (44%), individual psychotherapy (33%) and psychoeducational groups (20%) (31). Therefore, the individual approach, that is an expert for any smoker, is the most followed one.

The ISS report does not show the productivity of the CAFs but from the data reported, it appears that, indicatively, 8,008 calls were received to the CAF toll-free number, with a request for support for cessation, during the last year (01 May 2020 - 31 April 2021) [33].

The actual numbers of turnout at the No Smoking Centers are not available even if the general perception is that only small rates of smokers actually go to the centers for help to quit. Data released during the National Congress of SITAB (Italian Society of Tobacco), held in Turin in 2014, showed that in half of the No Smoking Centers the turnout was less than 100 units per year. Piedmont alone, a very righteous Region followed about 2400 smokers per year, with about 40 No Smoking Centers at the time [34]. On the basis of such data and given the current number of No Smoking Centers, it could reasonably be assumed that there would be a global turnout of about 13,000 smokers per year in Italian CAFs.

Compared to the situation in April 2018, just 2 years later the number of CAFs on the National territory decreased by 27% in 2021 (from 365 to 268). The decrease is uniformly distributed both for the CAF belonging to the NHS (-26%, from 301 to 224) and for the centers belonging to the LILT (-30%, from 60 to 42). The number of centers belonging to the private social sector has instead halved (-50%, from 4 to 2) (Table 1).

On the contrary, the number of employees increased by 19% (from 800 to 950), with a decrease in the presence of physicians (-6%) and psychologists/sociologists (-12%) and an increase in social workers (+ 100%) and educators (+ 25%), but above all administrative staff (+ 67%) (Table 2).

In order to estimate the cost-effectiveness of CAFs in Italy, the information regarding the entire composition of the CAF team was used, which can be obtained from the total of the 268 centers reported in the ISS Guide 21/S1 (31) where 950 employees are reported, with 29% of doctors (275.5 units, equal to 1.02 doctor / CAF), 22% of nurses (209 units, equal to 0.78 nurses/CAF), 21% of psychologists (199.5 units, equal to 0.74 psychologists/CAF), and finally 28% of other personnel (266 units, equal to 0.99 personnel/CAF) (Table 3), for a total average of 3.53 head-counts (Table 4).

Professionals	Head counts dedicated to CAF	Cost of each profession related to the no. of head counts working in each CAF (€) §‡	Cost of each profession related to the no. of head counts working in each CAF and to the no. of hours actually worked for CAF (1,122 @ total hours) (€)
A – Physician	1.02	100,215.00	63,877.06
B – Nurse	0.78	26,975.52	17,196.89
C – Psychologist	0.74	29,663.64	18,910.57
D – Health/Social worker			
E – Health worker			
F – Social worker			
G – Admin. employee			
Mean of D-E-F-G	0.99	28,466.96	18,330.99
Total Head counts	3.53		
Total cost		156,854.16	99,994.53#

Table 4: Annual cost of the head counts (3,53) actually dedicated to CAF, for the 268 Italian CAFs (31).

§ For 1760 hours/year (40 hours/week for 220 working days).

‡ Mean salaries in Italy in 2021 (available online) (33).

@ Hours of phone availability and/or actual availability to provide anti-smoking care.

Actual cost of 1 CAF out of total 268.

According to this hypothesis, the average annual cost of a team per single healthcare facility which the 268 CAFs refer to is equal to € 201,674.50, while the assumed cost for the head counts actually dedicated to each individual CAF (3.53) is equal to € 99,994.53 (Tables 3 & 4).

If this latter annual labor cost is proportioned to the use of 3.53 head counts for all 268 CAFs, the total effective cost borne by the NHS, for all CAFs, is equal to € 26,798,533.24. By dividing this global figure by a theoretical global turnout of 13,000 smokers per year, we would have a cost of 2,061€ per smoker.

Discussion

The review of the organizational situation for the containment of smoking in the main European Nations, including Italy, is showing an unevenly distribution of tools for supporting smoking cessation which makes it very unlikely to meet the ambitious goals of the latest European Beating Cancer Plan [35]. In other words, the measures adopted in the various Countries of the Union do not appear to be supported by political and organizational homogeneity. In some Countries, such as Italy, there is a centrality of the structures dedicated to cessation (CAF) as a measure of Public Health while in many others this is totally lacking.

Moreover, the effectiveness of the measures currently in place to help smokers in the cessation process appears to be extremely limited. For example, at the CAF of the San Giovanni Bosco Hospital in Turin, which has been founded by the Author, the effectiveness was the subject of an external audit: about 46% of the patients followed at the center managed to quit for a period of at least 3 years. Hence, about 54% of cessation attempts failed despite the rigorous application of the guidelines [36].

After all, the PASSI surveillance data on smoking in Italy estimate that the success rate of quitting attempts is just 9.6% after 6 months [37].

At the same time, the rate of smokers in Italy has remained steadily above 20% over the last decade and, probably also due to the health emergency for COVID-19, has even risen from 22% in 2019 to 24.2% in May 2022 [38].

In our study we have tried to understand, for the first time, albeit at the level of estimation, what is the level of cost-effectiveness of the Italian CAFs also taking into account the quite modest rate of successful quit attempts that appears far from being able to affect a wide proportion of smokers.

To do this, we used the data available on Italian CAFs for 2021 and the estimates on average Italian salaries available online to calculate the cost of professionals actually dedicated to the CAF activity, based on the estimated head counts.

The cost of a single treatment estimated on a hypothetical inflow of 13,000 smokers equals to 2061€. Such a cost does not appear to be elevated in itself but since cessation occurs in less than 50% of the attempt, more than half of the investment is lost and the unit cost of each successful cessation attempt is at least doubled and probably higher than 5,000€. This is even more likely when you consider that the above rate of successful cessation should be considered quite optimistic.

Unfortunately, the issues are largely linked to the nature of nicotine addiction which makes smoking a chronic relapsing disease by definition [39].

CAFs certainly represent a reference for the fight against smoking also for their clinical and cultural role alongside activities such as oncology, cardiology, pulmonology etc. but the unit costs and the impact on the real population of smokers raise doubts about the real effectiveness of this network and on the admissibility of the cessation proposal with respect to heavy smokers in the terms in which it is currently formulated. It is possible that public health policies regarding the fight against smoking need to be rethought and reformulated in some way.

In this regard, one cannot fail to consider the pragmatic approach adopted by the British Health Authorities and Scientific Societies which has been focused on risk reduction rather than trying to insist on the goal of achieving cessation on a large scale which appears difficult to implement as well as having poor cost-effectiveness ratio [40-43].

The new smoke-free technologies, aimed at a significant reduction in the delivery of toxic combustion products, are struggling to be accepted at the institutional level in the name of a strictly applied precautionary principle that ends up not allowing risk reduction strategies and therapeutic flexibility.

Smoke free products can represent an option both in the context of a second line of treatment for those who fail the cessation process, and an additional offer for those who do not want to quit smoking, generating a real partial prevention.

Our study has the limitation of being based on data that are just partially available/complete and that require different assumptions in order to estimate the real cost-effectiveness of CAFs in our Country.

For such reason, it should be viewed as an attempt to try to make, for the very first time, an estimate of the cost-effectiveness of CAFs, hoping of being able to generate a starting point to discuss and to search for options that can improve the efficiency of services aimed at smoking cessation and also to consider further aid policies specifically aimed at the large population of cigarette smokers who are unable or unwilling to quit. The limited use of CAFs by smokers and their high cost per cessation obtained (even if the latter was lower than that provided by our estimates) clearly indicate that the current organization is unable to provide an effective and sustainable response for Public Health.

The issue of cigarette smoking as a real global health emergency does not only concern Health Professionals, but is also a function of the intrinsic complexity of tobacco addiction. Quitting smoking is very complex due to nicotine addiction, self-managed attempts to quit generally fail, and smokers tend to essentially shy away from therapeutic proposals. This is confirmed, at least in Italy, by the limited access to CAFs.

This scenario is worsened by the scientific evidence that a large rate of smokers is unable to quit even when following expert advice, according to relevant cessation guidelines.

Finally, from the point of view of their cost-effectiveness, the CAFs themselves appear, at present, not decisive and perhaps their organization needs to be rethought and the tobacco control strategies themselves should be discussed extensively, focusing on the reasons for the failures.

Conclusion

Moving towards smoke-free products does not solve the problem of nicotine addiction but could allow a significant reduction in the consumption of combustion products, albeit with a limited and not definitive health benefit. This could be a possible change from the certainty of failure.

The same experts tend to confuse the fight against tobacco smoking with aid proposals to help heavy smokers. The feeling is that a cultural evolution of the concept of risk reduction and its applicability in the smoking sector is necessary. A general and in-depth discussion on these issues is hoped for in order to overcome dogmatic positions that have not proved successful in terms of practical results.

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Competing interest

No competing interest to declare.

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