Which is the best communication strategy, based on anti-tobacco ads, to impress teenagers? A multicenter cross-sectional study

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Abstract

Background. *Well-planned mass-media campaigns can increase health literacy and raise awareness about the consequences of tobacco use. This study aims to evaluate the emotions and opinions of adolescents about several anti-tobacco spots delivered by the mass media over the world.*

Study design. *Cross-sectional study.*

Methods. *The study was conducted in Italy in 2016-2017 among students aged 13-17 years. Students expressed their emotions and opinions about seven anti-tobacco spots from all over the world on different topics and styles.*

Results. *499 students attended. The video "Sponge" was found to be the most impressive (30.2%) and what they would have chosen if they had been responsible for campaign launched by the Minister of Health (40.5%). The "Icons" spot ranged second, with 19.2% and 17.4%, respectively.*

Conclusions. *In summary, this study showed that the communication strategies most effective, according to the students interviewed, are those that give clear messages with a scientific profile or that discover the false stereotypes, as in the video "Icons".*

However, further research is needed to investigate the effectiveness of TV campaigns against smoking, in terms of habits and knowledge in young people.

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Introduction

Tobacco remains a leading cause of disease and disability and presents a serious threat to the health of the young people (1). The Global Youth Tobacco Survey showed that 23.4% of Italian students, 20.6% of boys and 26.3% of girls, smoked cigarettes in 2014 (2). People usually start smoking during adolescence with a higher probability to become a regular smoker and to suffer from the worst health consequences (3). The determinants of youth smoking initiation are mixed (4). Adolescents are more exposed to the risk of starting smoking due to curiosity, failure to comply with rules and imitation of peers. During this phase of life, young people begin to define their own identity and may encounter difficulties in withstanding the peer pressure and refuse risky behaviors (5).

Numerous interventions and policies have been implemented that aim to control the tobacco epidemic in teenagers. Many strategies and policies follow the global public health treaty of World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) (6). The FCTC's treaty suggests tactical inputs to counteract tobacco use such as pricing and taxation measures (7), tobacco product legislation (8), labelling of products (9, 10), health education (11, 12) and prevention (6). In particular, the education of young people is among the main objectives of tobacco-control policies, between the education and prevention strategies, there are school-based interventions and mass media campaigns (13, 14).

Well-planned health campaigns can increase health literacy and raise awareness about the consequences of tobacco use. Several studies showed that the media campaigns can contribute to reduce youth smoking incidence and promote adult quitting (15, 16). Numerous anti-tobacco campaigns have been implemented worldwide; one of the most recent was The Real Cost campaign by the Food and Drug Administration (FDA) in USA (17). In England, Quit UK 'the end' by Iris was the anti-smoking campaigns distributed in 2011. In 2012, the Centers for Disease Control and Prevention (CDC) launched the national tobacco education campaign "Tips From Former Smokers" (18). In Italy, the Ministry of Health proposed "Ma che sei scemo? Il fumo fammale" (Are you stupid? Smoking is bad) in 2015. It was a series of ads against smoking, with the differentiated target, as pregnant women and teenagers (19).

While a growing body of research focused on the effectiveness of health campaigns for primary prevention (15, 16), no one study in literature focused on emotional and cognitive responses of adolescents about recent anti-smoking campaigns. The present study aimed to evaluate emotions and opinions among Italian students aged 13-18 years about anti-tobacco campaigns conducted over the world, and compare responses to different anti-smoking campaigns according to age, gender, and smoking status of students, their parents and peers.

Methods

Study design and study setting

The study was a multicenter cross-sectional survey. It was conducted in schools of different Italian regions (Lazio, Campania, Sicily and Piedmont), between September 2016 until June 2017, following the STROBE statement (STrengthening the Reporting of OBservational studies in Epidemiology) (20) (STROBE checklist is reported in Annex 1).

The study respected the ethical standards of the institutional and national research committee as well as the 1964 Helsinki declaration and its later amendments. Ethical approval was received from the institutional research ethics committee

before data collection (Ethical Committee, Teaching hospital Umberto I: Rif. 3177/ 24-4-2014).

The school principals released the agreement to conduct the survey and the anonymity and confidentiality of responses was assured. Participation in the study was voluntary.

The participants and the questionnaire

The study enrolled students attending the first year of the course of secondary school. Students were invited to watch a video composed of seven different anti-tobacco spots, and subsequently to fill out an anonymous questionnaire. The questionnaire is attached in Annex 2.

The questionnaire contains questions on demographic information (age and gender), feelings about video spots, smoking status of student, peers and relatives.

Age was divided into two class categories: preadolescents (13-15 years old) and adolescents (16-17 years old). Smoking status was assessed by asking students: do you smoke (yes, every day; yes, but not every day; no, but I tried; no, I never smoked). Students who responded the first three answers were classified as smokers in the analysis, whereas students who responded, no, I never smoked, were considered non-smokers. Smoking status of their best friend, boyfriend or girlfriend was assessed in two answers: yes, every day; no. Consequently, peers were classified as smokers and non-smokers. Smoking status of parents was measured using the question Who of your close relatives smokes? The possible choices were mother, father or both.

The part of the questionnaire about adolescents' responses on video programs consisted of three different parts:
• the emotion aroused by different ads: "Now we will show you some video. Sign which kind of emotion it aroused". Possible answers were: fun/indifference/anger/ sadness/disgust/ reflection. Students could

choose multiple answers and also give a free expression of their sensations;
• attitude towards tobacco ads: "Which ad most impressed you?" Students could choose only one among different spots;
• opinions about different ads: "In your opinion, which ads are able to prevent young people from smoking or make them stop?" "If you were the Minister of Health and you had to choose one video to show to young people, which one would you choose?";

The survey included also a question to explore which ad had been already seen "Which spot had you already seen before today?".

In addition, the questionnaire included open-end questions to give the students the opportunity to express their opinions and feelings about the video ads.

Video

The literature on world campaigns broadcasted in the last ten years allowed to create a video merging 7 different anti-tobacco ads, for a total duration of 7 minutes. Each one showed a different topic (health damage, esthetic consequence and dependence) and communication style (dramatic, funny, scientific, comedian, paranormal, sad and shocking). The subtitles in Italian were reported for English ads.

The following ads were selected:
• "Ma che sei scemo?...". The Italian media campaign was promoted by the Italian Ministry of Health in 2015. The spot is presented by a popular Italian comic actor, Nino Frassica, which discourages tobacco smoking using an ironic language in a surreal scenario "*Campagna di comunicazione contro il tabagismo*", 2015 (19).
• "Look younger, live longer". Anti-smoking charity 'Quit' (UK) 2011. The video is designed to make teenagers think about smoking by dramatizing its physical effects, highlighting that smoking can age smokers by up to 19 years. The video showed a young woman aging prematurely due to the effects

of smoking. A young girl, Sophie, smokes a cigarette. With each drag, she becomes increasingly wrinkled, until she wears the face of a much older woman (21);

• "Sponge". The campaign was created by the Australian National Preventive Health Agency (ANPHA) in 2007. The video compared the lung of a smoker to a sponge that absorbs all toxic substances of tobacco. The video aimed to provide scientific information to prevent tobacco use (22);

• "The Real Cost Campaign. Bully" promoted by Food and Drug Administration (FDA) in 2014. The campaign showed that smoking is a dependent behaviour. The campaign underlines the importance for adolescents to withstand peer pressure (17);

• 'The Real Cost. Campaign Science Class". The ad is set in a paranormal science lesson; the animal turns into monsters after the administration of tobacco substances (17);

• "Icons" promoted by the California Department of Public Health and TobaccoFreeCA in 2008. The ad attacks the icon of the smoker as cool and independent, instead of showing the smoker as a manipulated and dependent individual (23);

• "Brett Tip. Tips from former smokers" the campaign promoted by the Center for Disease Control and Prevention (CDC) in 2014. The spot tries to persuade young people from smoking using the advice and experiences of former smokers (18).

Statistical analysis

The computer software IBM SPSS statistics 25 was used to manage, recode and analyze all data.

Descriptive statistics was performed using mean and standard deviations (SD) for continuous variables, while percentages and frequencies were used for categorical ones.

Kolmogorov-Smirnov normality test was used for the choice of parametric and non-parametric analysis. Univariate analysis was performed in order to evaluate possible association between dependent variables (emotions, attitude, belief and opinions) versus gender, age and smoking status of students and people close to them. The tests used were Chi-Square test for qualitative variables, while Mann-Whitney for quantitative ones. The significance level was set at p <0.05.

Results

Description of the sample

A total number of 499 students participated in the study. Demographic characteristics and smoking habits are shown in Table 1. Among the students 324 (64.9%) were male and 171 (34.3%) were female; most participants were among 13-15 years old (88.1%). Around 13.9% of students were smokers and 30% indicated to be a non-smoker but had at least once tried a cigarette.

A total of 210 adolescents (42%) indicated that at least one parent smoked, 190 adolescents (38.6%) indicated that their best friend smoked and 42 (8.5%) indicated that their boyfriend or girlfriend smoked.

Emotive and cognitive impact on mass media campaigns

Table 2 shows for each ad the different emotional effects among adolescents. "Ma che sei scemo?..." was described by the majority of the students as a funny video (66.9%); "Sponge" as a disgusting ad (78.6%); "Icons" as sad (57.1%) and provoking thought (59.5%) ad; "Bully" and "Brett Tip" as stimulated thought adds (respectively with 51.3% and 52.7%); Science Class as a disgusting ad (60.1%).

"Sponge" was indicated as the most impressive ad (N=143, 30.2%) and the best choice for a Health Minister campaign (N=163, 40.5%) (first column, Table 3a).

The univariate analysis by gender, smoking status and age was reported in

Table 1 - Demographic characteristics and smoking status

		N (%)
Gender	male	324 (64.9)
	female	171 (34.3)
Age	13-15	429 (86)
	16-18	58 (11.6)
Place of residence	Rome	81 (16.2)
	Salerno	133 (26.7)
	Palermo	137 (27.5)
	Turin	148 (29.7)
Smoking status	yes	68 (13.6)
	no, but I tried	147 (29.5)
	I never tried	275 (55.1)
Smoker in family	Mother	115 (23)*
	Father	158 (31.7)*
Best friend	yes, everyday	190 (38.1)
	No	302 (60.5)
Boy/girlfriend	yes, everyday	42 (8.4)
	No	158 (31.7)
	I haven't a boy/girlfriend	292 (58.5)

*percentage of smokers among mothers/fathers

Tables 3a and 3b. The item "Which spot most impressed you" reported no statistical differences among gender, age groups, and smoker status. A significant different answer was found analyzing the question "Which video would you choose as Minister of Health?" by age (p =0.048) and having at least a smoker parent (p <0.001).

Table 2 - Descriptive analysis about emotional responses to ads

Ad	Feeling/emotions					
	Fun N (%)	Indifference N (%)	Anger N (%)	Sadness N (%)	Disgust N (%)	Thought N (%)
Ma che sei scemo? Il fumo fammale	334 (66.9)	71 (14.2)	30 (6)	17 (3.4)	39 (7.8)	227 (45.5)
Look younger, live longer	8 (1.6)	37 (7.4)	43 (8.6)	193 (38.7)	291 (58.3)	225 (45.1)
Sponge	7 (1.4)	11 (2.2)	47 (9.4)	73 (14.6)	392 (78.6)	218 (43.7)
Icons	26 (5.2)	17 (3.4)	72 (14.4)	285 (57.1)	102 (20.4)	297 (59.5)
Bully	116 (23.2)	123 (24.6)	121 (24.2)	65 (13)	33 (6.6)	256 (51.3)
Science Class	62 (12.4)	111 (22.2)	28 (5.6)	28 (5.6)	300 (60.1)	162 (32.5)
Brett Tip	13 (2.6)	19 (3.8)	48 (9.6)	150 (30.1)	346 (69.3)	263 (52.7)

Table 3a - Univariate analysis of opinions about ads

	Ad	Total N(%)	Gender			Smoking status				Age		
			Male N(%)	Female N(%)	p*	never smoker N(%)	No N(%)	Yes N(%)	p*	13-15 N(%)	16-18 N(%)	P**
Which ad most impresse you?	Ma che sei scemo?	54 (11.4)	42 (13.8)	12 (13.8)		31 (11.7)	15 (10.4)	7 (12.1)		48 (11.7)	4 (7.8)	
	Look younger, live longer	58 (12.2)	31 (10.2)	27 (10.2)		34 (12.8)	19 (13.2)	5 (8.6)		50 (12.1)	6 (11.8)	
	Sponge	143 (30.2)	90 (29.5)	52 (29.5)		80 (30.2)	44 (30.6)	17 (29.3)		115 (27.9)	23 (45.1)	
	Icons	91 (19.2)	53 (17.4)	38 (17.4)	0.120	57 (21.5)	22 (15.3)	11 (19.0)	0.020	82 (19.9)	9 (17.6)	0.060
	Bully	25 (5.3)	16 (5.2)	9 (5.2)		13 (4.9)	8 (5.6)	3 (5.2)		22 (5.3)	3 (5.9)	
	Science Class	35 (7.4)	22 (7.2)	13 (7.2)		17 (6.4)	10 (6.9)	7 (12.1)		30 (7.3)	4 (7.8)	
	Brett Tip	68 (14.3)	51 (16.7)	17 (16.7)		33 (12.5)	26 (18.1)	8 (13.8)		65 (15.8)	2 (3.9)	
	Missing	21	21	21		28				32		
Which video would you choose as Minister of Health?	Ma che sei scemo?...	30 (7.5)	24 (9.2)	6 (4.3)		17 (7.5)	8 (6.6)	5 (7.9)		27 (8.0)	3 (6.0)	
	Look younger, live longer	32 (8.0)	17 (6.5)	15 (10.6)		20 (8.8)	7 (5.7)	5 (7.9)		29 (8.0)	3 (6.0)	
	Sponge	163 (40.5)	105 (40.2)	58 (41.1)		80 (34.8)	56 (45.9)	27 (42.9)		126 (37.0)	31 (60.0)	
	Icons	70 (17.4)	41 (15.7)	29 (20.6)	<0.001	47 (20.7)	13 (10.7)	9 (14.3)	0.200	63 (18.0)	7 (13.0)	0.080
	Bully	24 (6.0)	19 (7.3)	5 (3.5)		15 (6.6)	7 (5.7)	2 (3.2)		21 (6.0)	3 (6.0)	
	Science Class	21 (5.2)	11 (4.2)	10 (7.1)		11 (4.8)	5 (4.1)	5 (7.9)		17 (5.0)	3 (6.0)	
	Brett Tip	62 (15.4)	44 (16.9)	18 (12.8)		34 (15)	21 (17.2)	7 (11.1)		60 (17.0)	2 (4.0)	
	Missing	93	93	93		94				90		

* Chi square test
** Mann Whitney test

Table 3b - Univariate analysis of opinions about spots

Ad		Parent smoking status			Peer smoking status		
		Yes (%)	No (%)	p*	Yes (%)	No (%)	p*
Which ads most impressed you?	Ma che sei scemo? …	20 (10.2)	33 (11.5)		18 (10.1)	35 (12.1)	
	Look younger, longer	31 (14.8)	27 (9.4)		17 (9.6)	41 (14.1)	
	Sponge	55 (26.2)	87 (30.3)		56 (31.5)	85 (29.3)	
	Icons	35 (16.7)	56 (19.5)	0.830	31 (17.4)	58 (20.0)	0.180
	Bully	12 (5.7)	13 (4.5)		14 (7.9)	11 (3.8)	
	Science Class	16 (7.6)	20 (7.0)		18 (10.1)	16 (5.5)	
	Brett Tip	28 (13.3)	40 (13.9)		24 (13.5)	44 (15.2)	
	Missing	22			27		
Which video would you choose as Minister of Health?	Ma che sei scemo? …	17 (9.2)	14 (6.1)		11 (8.8)	20 (7.5)	
	Look younger, longer	18 (9.7)	14 (6.1)		9 (7.2)	23 (8.6)	
	Sponge	66 (35.7)	97 (42.0)		57 (45.6)	102 (38.1)	
	Icons	27 (14.6)	43 (18.6)	<0.001	20 (16.0)	49 (18.3)	0.460
	Bully	13 (7.0)	11 (4.8)		6 (4.8)	18 (6.7)	
	Science Class	10 (5.4)	11 (4.8)		10 (78.0)	11 (4.1)	
	Brett Tip	28 (15.1)	34 (14.7)		17 (9.6)	45 (16.8)	
	Missing	92			102		

*Chi square test

Discussion

The purpose of this study was to investigate emotions, opinions and attitudes about different anti-tobacco ads among adolescents aged 13-17 years old and to study the relationship between their responses and demographic factors, smoking status of students and people close to them. To our knowledge, this is a longitudinal study from the year 2000 to study the effects of anti-tobacco campaigns from all over the world and the reactions of young people.

Overall, the study showed that one student out ten was smokers and one third has tried a cigarette at least once; these percentages are worrisome for the young age of the sample and because young people who smoke from an early age are more likely to become regular smokers as adults (24).

In this study, less than half of students had a parent that smoked and almost half had a peer, friend or boy/girlfriend that smoked.

According to social cognitive theory, young people shape and model their behaviour on people they consider worthy (25) indeed peer influence is a strong predictor of smoking initiation. Okoli et al. (26) suggested that smoking uptake could mean to make friends and being accepted in a group. It is noteworthy that adolescents who have difficulties in dealing with peer pressure and have negative peer influences are more prone to have unhealthy behaviours. Instead, positive and functional relationships and a strong sense of identity are linked with psychological well-being and inversely related to risky behaviors (5).

In the present study, "Sponge" was the most impressive and appreciated campaign, but aroused feelings of disgust and thought. The Australian mass media campaign used a scientific approach with the explanation of the structure of the lung and the description of pathological changes caused by tobacco. The message was clear, simple but strong

and not emotionally shocking. This finding is in line with the survey conducted by Montazeri and McEwen (27), which showed that effective communication requires reality, simplicity and a striking message. The systematic review of Brinn et al. (28) showed that teen preferred tobacco control campaigns showing strong health consequences and fighting manipulative strategies of the tobacco industry.

The second most preferred video was "Icons", which focused on changing the perception of smokers as interesting, mysterious and intriguing people. The smokers are presented as ill, imprisoned and sad individuals; students reacted with the feeling of disgust and refuse. It is important to change the "model" of smokers, Dillart et al. (29) underlined that the perception of smokers has an important role in determining the public attitude toward smoking and consequently smoking rate (30).

The Italian mass media campaign produced funny reactions. Most students were not impressed and would not choose it in the role of the Minister of Health. This finding is not surprising as the campaign had a trivial message delivered in an unrealistic scenario. This was a non-scientific campaign and maybe not so much credible. In fact this spot was comic, maybe because the main actor is known as a comedian. Besides, the Italian campaign resulted having never been evaluated as a health care interventions, while it should have been (31). The assessment of health campaign is important in order to report the highlight points of strength and weakness and improve effective characteristics.

This study has some limitations. It presents two kinds of bias: *selection bias* as the survey was conducted in a convenience sample of adolescents. Adolescents from the selected schools could give different emotional and cognitive answers compared to THE population of teens aged 13-15 years. The measurement bias was very possible,

because the study used a non validated questionnaire, and this could have limited the reliability of the answers. Furthermore, the questionnaire was self-administered and missing values could have influenced the results.

Moreover, this cross-sectional study is the first one in Italy that evaluated and compared the reactions to several anti-tobacco campaigns from over the world among Italian adolescents, and it is not possible to compare the findings with other similar research.

Furthermore, the study did not evaluate the impact in terms of change in smoking behavior or attitude but it is focused on emotional and cognitive responses. Further research is needed to study the health outcomes as smoking initiation or quit smoking associated with the view of the videos.

Additional variables that may influence responses of adolescents should have been considered as socio-economic status, social capital and lifestyle (nutrition, physical activity and alcohol use) (32). Further research is needed to fully investigate adolescents' response to an anti-tobacco mass media campaign.

Despite these limits, this study was conducted using the rigorous methodology to perform cross-sectional studies with the use of the STROBE statement. Furthermore, it is the first study that explores and compares the emotional reaction aroused by anti-tobacco ads in an adolescent setting.

In summary, this study showed that clear communication strategies which give neat messages with scientific style ("Sponge") or which reveal the false "icon" of smokers, were preferred by adolescents. It is also important to consider the duration and intensity of the transmission (33) as long-term interventions (30), the repetition of the media messages, the delivery by multiple channels (newspapers, radio and television), all variables associated with better health outcomes (15, 34).

Further research is needed to study the health outcomes, as smoking initiation or stop associated with the view of the videos.

Health campaigns should be part of a comprehensive tobacco control programs and of policies to fight tobacco epidemic, and thus they should be monitored and updated continuously.

Riassunto

Negli spot contro il tabacco quale è la strategia comunicativa migliore per impressionare gli adolescenti? Studio trasversale multicentrico

Introduzione. Una campagna anti-tabacco sui mass-media può essere di supporto per incrementare le conoscenze e accrescere la consapevolezza sui danni per la salute. Il presente studio ha l'obiettivo di valutare l'impressione e le opinioni degli adolescenti in merito ad una serie di spot contro il tabacco che sono state utilizzate nel mondo negli ultimi anni.

Disegno dello studio. Studio trasversale

Metodi. Lo studio è stato condotto in Italia tra il 2016 e il 2017 in un campione di studenti di 13-17 anni. Agli studenti sono stati mostrati 7 video relativi a campagne anti-fumo proposte in tutto il mondo ed opportunamente sottotitolate in italiano. Questi, attraverso un questionario, hanno espresso la loro impressione ed opinione sui differenti topic e stili.

Risultati. Hanno partecipato 499 studenti. Il video "Spugna" è risultato essere il più efficace (30.2%) e quello che avrebbero scelto se fossero stati il Ministro della Sanità (40.5%). Segue a questo spot il video "Icone" rispettivamente con 19.2% e 17.4%.

Conclusioni. Questo studio ha mostrato che le strategie comunicative più efficaci a detta degli studenti intervistati sono quelle che danno messaggi chiari e con profilo scientifico o che mettono in guardia le persone dai falsi stereotipi come nel video "Icone". Ulteriori ricerche sono comunque necessarie per investigare l'efficacia delle campagne televisive contro il fumo in termini di abitudini e di conoscenze per e tra i giovani.

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Annex 1. STROBE checklist

	Item No	Recommendation
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract (*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported
Objectives	2	State specific objectives, including any prespecified hypotheses
Methods		
Study design	3	Present key elements of study design early in the paper
Setting	3	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	3	(*a*) *Cohort study*—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study*—Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study*—Give the eligibility criteria, and the sources and methods of selection of participants (*b*) *Cohort study*—For matched studies, give matching criteria and number of exposed and unexposed *Case-control study*—For matched studies, give matching criteria and the number of controls per case
Variables	4	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/ measurement	4	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	4	Describe any efforts to address potential sources of bias
Study size	4	Explain how the study size was arrived at
Quantitative variables	5-6	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	6	(*a*) Describe all statistical methods, including those used to control for confounding (*b*) Describe any methods used to examine subgroups and interactions (*c*) Explain how missing data were addressed (*d*) *Cohort study*—If applicable, explain how loss to follow-up was addressed *Case-control study*—If applicable, explain how matching of cases and controls was addressed *Cross-sectional study*—If applicable, describe analytical methods taking account of sampling strategy (*e*) Describe any sensitivity analyses

Results

Participants	6-7	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed (b) Give reasons for non-participation at each stage (c) Consider use of a flow diagram
Descriptive data	6-7	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders (b) Indicate number of participants with missing data for each variable of interest (c) *Cohort study*—Summarise follow-up time (eg, average and total amount)
Outcome data	6-7	*Cohort study*—Report numbers of outcome events or summary measures over time *Case-control study*—Report numbers in each exposure category, or summary measures of exposure *Cross-sectional study*—Report numbers of outcome events or summary measures
Main results	6-7	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included (*b*) Report category boundaries when continuous variables were categorized (*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	/	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses

Discussion

Key results	7-8	Summarise key results with reference to study objectives
Limitations	9	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
Interpretation	7-8	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence
Generalisability	/	Discuss the generalisability (external validity) of the study results

Other information

Funding	9	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based

Annex 2. Questionnaire

You are?
? male ? female
How old are you? ……………..………………
Do you smoke?
? Yes, everyday ? Not everyday ? No, but I tried ? I never smoked
Is there someone in your family that smoke?
? mother ? father ? brother ? sister
Does your friend smoke?
?Yes, everyday ? Not everyday ? No
Does your boyfriend/girlfriend smoke?
? Yes, everyday ? Not everyday ? No ? I do not have a boy/girlfriend

Now we will show you videos and you can choose one or more sensations about the video. You can select more answers.

1. Video. "Ma che sei scemo? Il fumo fammale"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………
2. Video. "Look younger, live longer"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………
3. Video. "Sponge"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………
4. Video. "Icons"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………

5. Video. "Bully"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………
6. Video. "Science class"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………
7. Video. "Brett Tip"
? fun
? indifference
? anger
? sadness
? disgust
? riflection
? other, specify………………………………………
8. Which video impressed you most? (Give only one answer)
? Ma che sei scemo? Il fumo fammale?
? Look younger, live longer
? Sponge
? Icons
? Bully
? Science class
? Brett Tip
? none
Why? ………………………………………………………
9. In your opinion which ads would be more effective to discourage smoking initiation or encourage cessation? (you can choose more than one answers).
? Ma che sei scemo? Il fumo fammale
? Look younger, live longer
? Sponge
? Icons
? Bully
? Science class
? Brett Tip
? none
10. Which ads had you already seen before? (you can choose more than one answer).
? Ma che sei scemo? Il fumo fammale

? Look younger, longer
? Sponge
? Icons
? Bully
? Science class
? Brett Tip
? none

11. If you were the Minister of Health which video would you choose for young people to prevent smoking initiation or to favor smoking cessation? (choose one answer)
? Ma che sei scemo? Il fumo fammale?
? Look younger, live longer
? Sponge
? Icons
? Bully
? Science class
? Brett Tip
? none

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