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'[. . .] the situation in the schools still remains the Achilles heel.' Barriers to the implementation of school tobacco policies—a qualitative study from local stakeholder's perspective in seven European cities

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Abstract

School tobacco policies (STPs) are a crucial strategy to reduce adolescents smoking. Existing studies have investigated STPs predominantly from a school-related 'insider' view. Yet, little is known about barriers that are not identified from the 'schools' perspective', such as perceptions of local stakeholders. Forty-six expert interviews from seven European cities with stakeholders at the local level (e.g. representatives of regional health departments, youth protection and the field of addiction prevention) were included. The analysis of the expert interviews revealed different barriers that should be considered during the implementation of STPs. These barriers can be subsumed under the following: (i) Barriers regarding STP legislature (e.g. inconsistencies, partial bans), (ii) collaboration and cooperation problems between institutions and schools, (iii) low priority of smoking prevention and school smoking bans, (iv) insufficient human resources and (v) resistance among smoking students and students from disadvantaged backgrounds. Our findings on the expert's perspective indicate a need to enhance and implement comprehensive school smoking bans. Furthermore, collaboration and cooperation between schools and external institutions should be fostered and strengthened, and adequate human resources should be provided.

Introduction

Tobacco use is one of the leading causes of morbidity and mortality worldwide [1, 2]. Despite decreasing smoking rates among the youth, 21% of adolescents in Europe still smoked in 2015 [3] and therefore the prevalence of tobacco use remains problematic. To decrease tobacco consumption and protect non-smokers from second-hand smoke exposure, several Tobacco Control Policies (e.g. measures that protect people from exposure to tobacco smoke, price and tax measures to reduce the demand for tobacco, measures regarding tobacco advertising, promotion and sponsorship) have been recommended by the World Health Organization

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(https://www.who.int/fctc/en/) [2]. Even though not recommended an essential strategy, the introduction of school tobacco policies (STPs), namely smoking prevention and educational programmes as well as smoke-free school policies, has increased worldwide. Given that the onset of smoking often takes place during adolescence, school environments play an important role in the prevention of adolescent smoking behaviour [4].

A recent review found that, in general, smoke-free (SF) legislation improves populations' health [e.g. by reducing second-hand smoke (SHS)] and provides strong support for WHO recommendations to develop SF environments [5]. However, regarding STPs, the scientific evidence remains largely inconclusive [6–8]. Whereas some studies suggest that STPs decrease the likelihood of adolescents' smoking [9] others found that STPs have no impact on adolescents' smoking behaviour [10]. Nevertheless, there is increasing evidence that the exact mode of implementation of STPs matters when it comes to the effectiveness of STPs [8]. For example, Kuipers *et al*. [11], who used three different dimensions (regulations, communications and sanctions) to operationalize STPs, found that stronger smoking policies were associated with fewer students smoking on school premises.

Given the strong empirical support that the level of implementation affects the outcomes achieved in prevention programmes [12], one can assume that different levels of implementation of STPs are reasons for the inconclusiveness of the evidence regarding the impact of STPs on youth smoking behaviour, as well as on SHS exposure on school premises [6–8]. Therefore, it is important to investigate the multiplicity of barriers that influence STPs' implementation processes in school settings. However, existing studies investigate this topic predominantly from a school-related insider view by taking into account the students' and/or teachers' perspectives [8, 13–19]. Barriers to the implementation of STPs perceived by school insiders (school-related perspective) are for instance: A lack of legislation (e.g. regarding outdoor school areas or stricter legislation), a lack of administrative and staff support, low student involvement, lack of resources and lack of parental support [13, 17].

Yet, little is known about barriers that are not identified by the 'schools' perspective', as organizational and structural barriers or collaboration issues between local stakeholders and schools, which may hinder the implementation of STPs. To the best of our knowledge, no study has examined such STP implementation barriers from an 'outsider perspective' by focussing on local stakeholders—who play a vital role in the implementation of STPs—as they are delegated the responsibility to encourage STPs implementation. These people include representatives of regional health departments, ministries, addiction services, health advocacies and youth protection. Local stakeholders outside schools are in charge of close collaboration and communication procedures with schools regarding the implementation of STPs as they, for instance, provide resources for smoking prevention and educational programmes for schools. This outsider perspective, or 'bird's eye view', may offer the opportunity to gain new insights into an unknown perspective, which is important in gaining a better understanding as well as enhancing the implementation of STPs.

To address this gap, we conducted a qualitative study with local stakeholders across seven European cities that explores, which barriers might affect the implementation of STPs. This offers the opportunity to get a broad range of insights from different local political contexts, which may contribute to further enhance the implementation of STPs, prevent students from smoking in the school context and thereby reduce the overall prevalence of smoking.

Materials and methods

Study background

This qualitative study is part of the European SILNE-R project (Enhancing the Effectiveness of Programmes and Strategies to Prevent Smoking by Adolescents: A Realist Evaluation Comparing Seven European Countries), which aimed at learning how strategies and programmes to prevent youth smoking could enhance their effectiveness by taking

into account the opportunities, barriers and resources present at local levels.

Sampling

Problem-centred expert interviews [20] were conducted in seven European cities (Belgium, Namur; Finland, Tampere; Germany, Hanover; Ireland, Dublin; Italy, Latina; The Netherlands, Amersfoort; Portugal, Coimbra). These cities were chosen because they have a population size, income and unemployment rate comparable to the national average. We obtained a purposive sample of stakeholders who had, as far as possible, longstanding experience in the implementation of SF laws and/or tobacco prevention and were responsible for health or tobacco issues at the local level. The recruitment process was carried out in collaboration with the national SILNE-R project partners. The research team from each country identified stakeholders who are relevant to the local implementation of Tobacco Control Policies (TCPs) using digital stakeholder mapping [21]. In our study, stakeholders from the local level are defined as persons who are 'working on the ground' and are responsible for the implementation of laws at the local level, such as SF legislation and STPs, but cannot necessarily enact policies by themselves. Interview partners belonging to the 'pro-health' coalition from various fields were included, e.g. representatives of regional health departments, ministries, youth protection, health advocacies and the field of addiction prevention (Table I). In addition, some of the interview partners were selected by snowball sampling [22].

In total, we contacted 89 experts from the seven European cities by telephone and e-mail. They were informed about the study by an information letter via e-mail. When we reached theoretical saturation, we terminated the recruiting process, which generated 56 individual interviews (Table I) [23, 24]. Respondents that had a genuine focus on SF implementation or enforcement at the local level (police, public order office, hospitals, food safety and consumers' safety control) and not on school level were excluded ($n = 10$), which resulted in a final sample of 46 expert interviews, which were included in this study (Table I).

Data collection

The empirical data collection was carried out in collaboration with the international SILNE-R project partners. A trained interviewer (research associate) from each national team conducted the face-to-face interviews in their respective native language in a private, undisturbed room at the participant's workplace using a semi-structured interview guide (Supplementary Material S1). We used findings from the literature and a realist review on the implementation of SF policies at the local level [25] to inform and construct the interview guide [26].

Every interviewer from each team pilot-tested the interview guide before conducting the interviews used in this study. One interview was carried out in each country using the developed interview guide and modified afterwards. The final version of the interview guide was translated in the respective native language and applied in all seven cities to conduct the expert interviews.

At the end of every face-to-face interview, a mini questionnaire was completed in order to collect basic socio-demographic information, such as age, gender, occupation and current institutional position, working experience and smoking status (Supplementary Material S2). The interviews took place between January and July 2017. All interviews were digitally audio-recorded with the permission of the respondents, and fully transcribed verbatim. The interviews were finally translated into English by professional translating offices or native speakers and then sent to the German team (L.H., M.M. and M.R.), which was responsible for analysing the data.

Data analysis

The analysis of the expert interviews was based on the 'framework method' [27]. 'The Framework Method provides clear steps to follow and produces highly structured outputs of summarized data' [27]. These steps can be divided into the following: (i) transcription, (ii) familiarization with the

Table I: *Data characteristics of expert interview participants*

Sample (total)	*n*	Contacted experts	Mean response in %	Mean age	Proportion female, in %	Mean years working experience	Current and former smokers, in %	Duration of the interview min. (mean)
Seven European cities → exclusion of $n = 10$ interviews	56	89	62.9	50.6	66.1	14.8	26.8	44.8
Sample (included)	***n***	**Proportion, in %**		**Mean age**	**Proportion female, in %**	**Mean years working experience**	**Current and former smokers, in %**	**Duration of the interview min. (mean)**
Health/welfare promotion	23	50.0		49.3	60.9	14.8	26.1	43.7
Addiction	11	23.9		51.0	75.0	13.1	27.3	43.3
Youth protection	5	10.9		61.2	40.0	19.2	80.0	54.0
Health advocacy (e.g. NGOs)	4	8.7		47.8	75.0	9.0	0.0	38.3
Education	3	6.5		48.0	66.6	14.7	0.0	37.2
Total	46	100		50.8	63.0	14.3	28.3	44.9

interview, (iii) coding, (iv) developing a working analytical framework/coding-tree, (v) applying the analytical framework/coding-tree, (vi) charting data into the framework matrix and (vii) interpreting the data [27]. This method is widely used in different research areas, including health research [27]. We used MAXQDA software, version 11, for organization and storing of the data. We worked out new categories across all seven cities during the inductive part of the analyses. The (sub-)category 'barriers to the implementation of STPs' emerged in the following three main categories: 'Existing TCPs', 'collaboration' and 'enforcement'. As these (sub-)category emerged in all of the cities, and discovering new dimensions from the data is one of the main characteristics of qualitative research [28], it seemed appropriate to make use of it, even though it was (only) implicitly included in the interview guide.

Several criteria for measuring rigour were included in our study [29, 30]. We achieved rigour and quality by following the international COREQ criteria (consolidated criteria for reporting qualitative research) [31]. Following the COREQ criteria checklist is highly recommended in qualitative research as they offer guidance in maintaining quality standards, especially when working in a team [30]. To achieve reliability, two research associates (L.H. and M.M.) coded the data. Any inconsistencies that arose were discussed until an agreement was reached [30]. Additionally, the research associates (L.H. and M.M.) held regular meetings between August 2017 and May 2018 to discuss and refine the coding-tree. This is also a common way to show reliability in qualitative research [30]. Furthermore, we meticulously documented the data collection and analysis process from the start of the project and developed a detailed codebook.

Ethical issues

The SILNE-R study complies with the principles of the Declaration of Helsinki and the standards of good scientific practice. All participants were extensively informed about the project, confidentiality and handling of the collected data. A written or verbal informed consent was gathered from every participant. The SILNE-R project was approved by the respective ethics committees of the participating research institutions.

Results

Forty-six expert interviews (mean duration 45 mi.) with stakeholders who are relevant to the local implementation of TCPs were included in this study. The average participants' age was 51 years old. Respondents had on average 14 years working

experience in their professional field of health promotion, health advocacy, youth protection and addiction. Nearly one third of the interview partners were female. About 28% were current or former smokers. Detailed characteristics of the sample are displayed in Table I.

Barriers regarding STP legislature

In general, the analyses of the data revealed that the interviewees considered STPs implementation as largely insufficient. According to the interviewees, SF school policies are not strongly implemented in all of the analysed municipalities.

> Well, [the city] has committed to having smoke-free city spaces. So, I think the situation is pretty good, if we think about spaces for adults. But in schools, non-smoking and obeying these laws, I must somewhat shamefully admit, is not really happening. [. . .] So, it's not yet fully a reality. (FIN#4, preventive drug and alcohol worker)

> Things seem to be a little bit better in hospitals, where people are evidently more respectful of the law [. . .] However, the situation in the schools still remains the Achilles' heel. (ITA#4, local health authority)

Nearly all local contexts analysed have introduced SF school policies. Nevertheless, these policies frequently allowed smoking in designated areas, allowed students to leave school premises during school hours and allowed exceptions to teachers and technical staff. These partial or inconsistent bans are perceived as major barriers to the implementation of STPs by the stakeholders.

> All the more so as there is a contradiction in the legislation, which will prohibit smoking in schools, but schools are also professional environments, in which for example companies, there has to be a special room for smokers. So, there can be contradictions. [. . .] There is a contradiction, but there is a need for clarity. (BEL#5, centre for tobacco consumption prevention)

Even in contexts with relatively strict SF legislation, the interviewees reported that schools seem to make their own rules due to inconsistencies in the current law.

> [. . .] there's sort of a bit of confusion around what the rules are or what the legislation covers, because each school is its own kingdom in this country as you know so they have their own set of schools rules. (IRL#4, Policy advisor in public health quango)

According to the interviewees, another problem regarding STP legislation is smoking outside school premises. In all of the cities where school smoking bans are in place, restrictions only cover school premises—and not their surroundings. This does not prevent smoking in adolescents, and even results in a simple displacement of smoking. This is the reason why the interviewees criticized smoking in front of schools.

> But schools wonder how they will forbid it because the students will just stand in front of the schoolyard and smoke there, or how do they handle the teachers that smoke. Those are the obstacles that they encounter. (NED#2, regional health coalition)

> [. . .] usually what happens, and primarily at schools we see that a lot, in the exterior, in front of the schools' exterior, at the entrance placing ashtrays and public street furniture to, basically, so that the smokers can smoke [. . .]. (POR#3, city council)

Consequently, the interviewees reported the development of 'pseudo-realities' of SF schools. That means that, even though school smoking bans are formally implemented by law, in reality there are many barriers regarding the feasibility of their adoption and implementation. The interviewees criticized that it is not enough to have legislation in place if it only covers school premises or if it allows smoking areas inside schools, and that there is a lack of clear rules on how to enforce SF school policies. There is also a need to expand school smoking bans,

to overcome the development of 'pseudo-realities' of SF schools, and create real SF schools.

> This is by decree and half the staff and half the student body stands outside on the sidewalk and smokes. And yet, there is a sign saying 'we are smoke-free'. To some extent, through these decree pseudo-realities are created that have nothing to do with general practice at all. (GER#2, youth protection)

Collaboration and cooperation problems between institutions and schools

From the interviewees' perspectives, collaboration and cooperation problems between schools and local stakeholders who are involved in implementing STPs in schools are another main barrier regarding the implementation of STPs. Different factors affect collaboration processes in a negative way, and therefore hinder successful implementation of STPs:

Collaboration and cooperation problems mainly arise from school staff who smoke and who are responsible for management issues, and who decide whether STPs are adopted in their schools. In particular, principals who smoke are seen as barriers to the implementation and adoption of STPs. Their motivation and interest in engaging in smoking prevention programmes or adopting smoking bans is perceived as rather low, which makes it difficult to convince schools to implement STPs and to strictly enforce them. This often results in a low level of support or even resistance from school staff when it comes to the implementations of SF environments at their schools, which impedes or even hinder successful collaboration with local stakeholders and, as such, impedes the implementation of STPs.

> [. . .] for example, schools, in which people themselves smoke like the principal or members of staff that are of importance, then it has an effect on what their opinion is, and they do experience quite some difficulty with going completely smoke-free while they smoke themselves, that doesn't help at all. (NED#6, clean air organization)

> And, if in some schools they tell you directly that the principal also smokes or many of the teachers smoke, they won't see a reason to [make the school a smoke-free environment]. (FIN#4, preventive drug and alcohol worker)

Along with this, we found that differences in the understanding or interpretation of STPs hinder successful cooperation between schools and local stakeholders. The importance of SF school policies is often underestimated by schools. Although schools tend to perceive them solely as a top-down ban, the interviewees recognize them as means for health education, and to protect students from SHS. In other words, teachers and other staff members only perceive SF school policies as bans, while underestimating their educational function. These differences in understanding what STPs mean, make it difficult to collaborate with these schools:

> It seems as if the importance of this law is underestimated firstly by school directors, then by teachers. They see it as a constraint to the students and prefer not to tackle the situation seriously. I think that they have not perceived the fact that the objective of the law is not just to prohibit, but to convey a message regarding the health risks related to smoking. It's difficult to convince school directors to take up initiatives that implement projects dealing with such issues [smoking]. (ITA#4, local health authority - department of prevention)

Low priority of smoking prevention and SF policies

Furthermore, a low priority of smoking prevention and SF policies in general is considered to be a major barrier to the implementation of STPs. In most of the cities interviewees reported that smoking is considered as an 'issue of the past' and that it has become less important due to decreasing smoking rates among adolescents. The schools have various other things to deal with and are faced with further issues. For example, in Tampere (Finland), snus and alcohol

are considered as more important and more urgent issues. In Amersfoort (The Netherlands), mental health and problems pertaining to socioeconomic status (SES) are seen as worthier of focus. According to the interviewees, schools often favour other issues when creating their health promotion programmes, which then depend on the target group's health behaviours—as well as the proportion of smokers. Low SES schools are especially affected by higher smoking rates but at the same time STPs are attributed a rather low priority status, as other 'more important' issues emerge, like problematic students, violence or illicit substance use.

> Surely, the schools come and say, so for us here the topic of media is our highest priority, or for a while it was alcohol that kind of boiled up and so on. But few schools now describe smoking as the biggest problem. It indeed is not. (GER#5, centre for addiction)

Insufficient human resources

Along with this, the interviewees reported that low resources (time, personnel) are a barrier to the implementation of STPs. The enforcement of SF schools in particular is affected by low resources, which might result in difficulties regarding responsibilities of teachers.

> 'That's a school in Namur and so, we provided support, there's a teacher there who is very much involved, it's not always easy to get other teachers to join in. Sometimes they say: "That's not my job," they ended up with a little group, some teachers weren't interested because it was extra work, so it's not easy'. (BEL#10, centre for health promotion at school)

> The sum of money we can allocate for our projects varies; in the past few years I have had a budget of €5.000, and this sum is scarcely sufficient to visit 18 schools. (ITA#3, Prevention Unit)

In addition to this the interviewees complained that schools are left alone with the enforcement of SF school policies by government or local institutions, and that it remains the principal's responsibility to do so. The interviewees' narratives further reveal that there is no additional school staff for enforcement or monitoring in any of these cities, which explains low inspection rates of smoking in schools or on school premises.

> **Interviewer:** What about enforcement controls? How does that work?
>
> **Interviewee:** Again, it's the principal's responsibility, but from here [. . .] this is very difficult to control. (BEL#1, Ministry of Education)

> Here, it is easy to step outside but, for instance, near schools the principal is ultimately responsible for keeping watch to ensure that teachers or members of staff are not smoking [. . .]. (FIN#1, Children and Youth Board)

Because of low resources, it may not be feasible for schools to implement comprehensive SF school policies, and sometimes schools can even be unwilling to do so. The interviewees suggested giving the principal the opportunity of using external services to improve the enforcement of SF school laws. However, in this context the experts again complained about collaboration problems with schools, due to a lack of time or motivation to do so with external services like local agencies for different reasons. Low resources may also result in low priority of smoking prevention and SF school programmes. In Tampere (Finland), e.g. the experts reported that it is difficult to convince principals to take up their own initiatives regarding STPs.

> So, it would take strong mutual effort and raising of spirit and people who are ready to do the actual work. And schools have so many other issues to deal with that, if it is left up to them alone, most people will just put their hands up and tell you it's no use. Absolutely. (FIN#4, Preventive drug and alcohol worker)

Resistance among students who smoke, and students from disadvantaged backgrounds

Finally, an important barrier regarding the implementation of STPs reported by the interviewees is resistance among students who smoke, and students from disadvantaged backgrounds, as well as perceived low compliance. Students who smoke are perceived as very challenging for schools, as well as for those who are responsible for the implementation of school prevention programmes. Schools have a hard time strictly enforcing smoking bans against these students; It seems that they tend to 'lose this battle' against the low SES persistent smokers, and as such smoking remains visible. The findings suggest that particular low SES and vocational school students do not respect the smoking bans that result in higher smoking rates in low SES school environments.

> They [low SES students] smoke in and around the school because they can do it without their parents knowing it, because parents often don't know what their sons are doing. [. . .] Yes, secretly, at school or on the premises. (ITA#2, Local cancer prevention organization)

> Huge obstacles were vocational schools. [. . .] We tried that in a lot of projects with vocational schools, but the students just left the premises, walked a few meters, and smoked there. (GER#5, Centre for Addiction)

Discussion

This study is the first that analysed the implementation of STPs in seven European cities from an outsider's perspective. The aim of the study was to identify implementation barriers based on external local stakeholders' views. By means of problem-centred qualitative interviews, the experiences and perspectives of experts, who are relevant to the local implementation of TCPs, were explored and analysed.

Key findings

The results indicate that there are different barriers regarding the implementation of STPs, which need to be further addressed in future research. We were able to identify several barriers, divided into five categories: (i) Barriers regarding STP legislation (inconsistencies and partial bans), (ii) collaboration and cooperation problems between institutions and schools, (iii) low priority of smoking prevention and school smoking bans, (iv) insufficient human resources and (v) resistance among students who smoke and students from disadvantaged backgrounds.

Comparison with previous research

Our findings partly support results from studies that have analysed insider/schools' perspectives regarding barriers to the implementation or adoption of STPs [13, 17]. For instance, Rozema *et al*. [13], who analysed the adoption of a voluntary outdoor school ground smoking ban at secondary schools in The Netherlands, found that a lack of legislation was reported as a barrier, and that stricter legislation for tobacco use by adolescents, as well as government guidelines on outdoor school ground smoking bans, would facilitate adoption [13], which is generally in line with our findings. They further found that smoking should not be prohibited for everyone and should not apply to teachers or visitors who smoke [13], which contradicts our findings on exceptions for teachers and older students. From a stakeholder perspective, exceptions for teachers and older students hinder the implementation of SF schools and there is a need to implement comprehensive smoking bans. According to their findings, an exception for adults (e.g. a place out of sight from the students, but on the school grounds) should facilitate the adoption of an outdoor school smoking ban [13]. These differences may result from a different context, given Rozema *et al*. [13] refer to a *voluntary* outdoor school ground smoking ban. In the case of SF legislation (and not voluntary), there is a need for comprehensive laws [8, 25]. In addition, we found that current smoking bans, which only cover school premises, may lead to a displacement of

smoking, which was also found in previous studies [8]. Furthermore, the stakeholders claimed that resistance from students who smoke, as well as from students from disadvantaged backgrounds, are another barrier to the implementation of STPs. Other studies found that a lack of student involvement, as well as active resistance from students who smoke, hinder successful implementation of smoking bans [17].

Moreover, Rozema *et al*. [13] found that close collaboration with external organizations (e.g. receiving counselling and implementation instructions) facilitate the implementation process. However, our study provides novel evidence about the relationship between schools and external parties, and shows that there are collaboration and cooperation problems between institutions involved in implementing STPs and schools. These mainly arise from school staff and principals who smoke themselves, as well as from differences in the understanding of SF school policies (underestimating the educational function, in that they are merely considered as a ban), which makes it difficult to work with them. Furthermore, their motivation in implementing STP's is perceived as rather low. We also found that a lack of administrative and staff support hinders successful implementation. This is in line with Harbison *et al*. [17], who analysed barriers associated with implementing a campus-wide SF policy in the United States.

Finally, local stakeholders perceived that smoking prevention has low priority in schools. This was not mentioned in previous research, departing from the schools' perspective, but pointed out to be one of the most important barrier from the stakeholder's perspective. From the outsiders' view, the main reason for low priority might be that schools consider smoking as an 'issue of the past' due to decreasing smoking rates among adolescents. That means that schools may use declining smoking rates as well as increasing de-normalization of smoking as arguments not to invest properly in STPs. At the same time, there are higher smoking rates in low SES adolescents [32–34].

All in all, our study provides novel evidence on the specific role of collaboration and cooperation problems between institutions and schools, their relationship, as well as the negative impact of school staff and principals smoking, which hinders close collaboration with external service providers in particular. Additionally, our study reveals that STPs have low priority in schools due to decreasing smoking rates, which need to be addressed in more detail. Existing evidence is very limited to special contexts or countries, like the United States [17]. With this study, we were able to further expand existing evidence and extend these results to seven European cities.

Implications and future directions

Our results show that there is a need to enhance the implementation of STPs. The stakeholders' perspective reveals that external parties and schools have to work hand in hand to ensure STPs in schools are properly and fully implemented, but there are collaboration barriers. First, there is a need to improve the relationship between external parties and schools. Closer collaboration between schools and external stakeholders offers the opportunity to pool resources, and therefore reduce workload for schools in the implementation process of STPs given they can support each other. Second, it may be helpful to provide incentives for schools to increase their motivation and interest in engaging in smoking prevention programmes or adopting smoking bans. To further improve collaboration and cooperation, we recommend clearly defining tasks and responsibilities for schools as well as for external service providers. A closer collaboration might be difficult, given the lack of funding and resources that the stakeholders complained about. However, in order to enable a closer collaboration between schools and external stakeholders, additional resources in form of financial and personnel support should be provided for both schools and local parties. For example, it could be beneficial to have a tobacco control officer at the school who would be state-funded and who would be in charge for working with external stakeholders and implementing STP and therefore reduce workload for schools.

Along with this, it is necessary that governments adopt and implement comprehensive SF school policies [8]. These bans must prohibit smoking all over school premises for teachers and students.

Considering adolescents start smoking outside school premises, smoking bans may also be expanded to the surrounding areas to ensure a displacement of smoking does not take place.

To raise awareness among disadvantaged pupils of the consequences of smoking, there is a need to include smoking and tobacco prevention as an inherent part of the school's curriculum beyond biology and subjects like arts. This may also increase the priority of primary tobacco prevention in schools. In addition, it is necessary to implement multi-substance life-skills programmes that do not relate solely to tobacco prevention. In other contexts, such programmes have already proven effective [35, 36].

Limitations

Some limitations of this study need to be acknowledged. First, most interviews ($n = 38$) were analysed based on English transcripts and coded by German-speaking researchers (L.H. and M.M.), which might have resulted in partial misreading and lost meaning [37, 38]. To minimize this limitation, we involved our international partners in the refinement of the synthesis of the evidence (A.E.K., N.M., T.L., A.G. and P.L.). Second, even though the stakeholder perspective is novel and needed in this context, it has some limitations; our findings and information on what happens 'within' schools may be partial or biased due to the outsider perspective. Last, our findings are limited to the European context, especially to the cities and municipalities analysed. Other local and school contexts may be faced with different barriers due to different local conditions, but as the national policy environment plays an important role in the adoption and implementation of STPs, we believe that similar results could have been found in other cities and municipalities. Also, these findings were not discrepant from those observed in contexts such as the United States.

Conclusion

This qualitative study provides new insights on barriers to the implementation of STPs from local stakeholders' perspectives that need to be addressed in order to ensure adequate implementation of STPs in the cities analysed. Our findings indicate a need to enhance and implement comprehensive school smoking bans. Schools should raise the priority of STPs and offer multi-substance life-skills programmes. Furthermore, collaboration and cooperation between schools and external institutions should be fostered and strengthened, and adequate human resources should be provided.

Supplementary data

Supplementary data are available at *HEAL* online.

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Conflict of interest statement

None declared.

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