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## Access point analysis: what do adolescents in South Africa say about tobacco control programmes?

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### Abstract

This paper explores adolescent preferences for the setting, timing, delivery format, provider and key elements of tobacco control programmes. The need for programme sensitivity towards urban/rural, gender and ethnic sub-groups is also discussed. Schools were purposively selected from the Southern Cape–Karoo Region, South Africa. Twelve prevention and nine cessation focus group discussions were conducted with Grade 6–8 students and Grade 8–9 smokers and ex-smokers, respectively. Adolescents reported similar preferences for prevention and cessation programmes. Although they were unaware of smoking prevention or cessation programmes, they reported a willingness to participate in such programmes. Programmes should include school-based activities that are supported by out-of-school activities held over weekends and holidays. Non-judgemental

and empathetic teachers and peers, as well as ex-smokers were preferred as programme providers. School-based participatory delivery formats should be supported by community-based mass media approaches. Programmes can be jointly presented to boys and girls of diverse ethnic backgrounds with some gender-sensitive sessions. Programme participation and sustainability would be enhanced if it were exciting, fun filled and integrated into their daily lives. School-based programmes must be embedded within comprehensive approaches that involve community- and policy-level interventions.

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### Introduction

Since the 1970s, adolescent smoking prevention programmes have been school based and theory driven using the social influences approach [1]. Even though there is some support for the long-term effectiveness of this approach, lack of programme effects in several studies and variability between studies in their internal and external validity cloud the reliability of this method [2]. Recommendations have been made for comprehensive approaches that address multiple determinants at the individual, community and policy levels [3–9]. Such approaches have resulted in significant reduction in smoking among adolescents [10–12] and other unhealthy behaviours such as alcohol use [13].

The integrated planning model (I-Plan model, see Fig. 1) supports comprehensive approaches to improve the effectiveness of anti-smoking strategies. The model, which incorporates insights from a number of health promotion planning models

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[15–17], consists of three phases, namely, analysis, behavioural intention and continuation.

In the analysis phase, the motivational determinants that underpin the educational objectives of smoking programmes are identified using the integrated model for change (I-Change model, see Fig. 2) [4]. The analysis phase also includes an exploration of the channels (e.g. setting, timing, provider and delivery format) through which the target audience can be accessed, known as an access point analysis (see Fig. 1). Access point analyses have been used to identify out-of-school settings for

smoking programmes in three European countries [18] and as a precursor to intervention development in a study of six European countries on smoking prevention for young people [4].

Access point analyses resonate closely to social marketing that segments the audience according to four basic marketing decisions, namely, product, price, place and promotion [19]. For example, product decisions refer to the design of the product (e.g. smoking programmes) and match the desirability of the product to the target audience. Price refers to the cost (e.g. fee and effort to participate in the programme) that an individual must accept to use the product or service. Place refers to the channels through which the product or service can be delivered to the participants (e.g. programme setting, provider and delivery format) and promotion refers to strategies to engage the target audience to use the product or service (e.g. recruitment and retention). This information allows for the formulation of ‘better targeted and more effective messages, more appropriate message design, more effective delivery and better reception by the public’ [20].

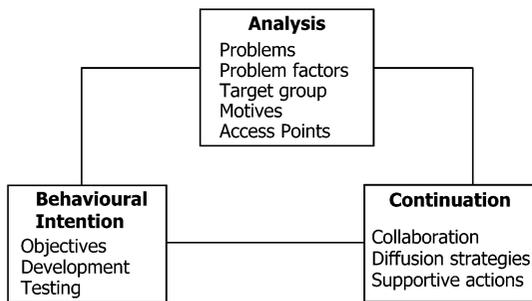


Fig. 1. The I-Plan model [14].

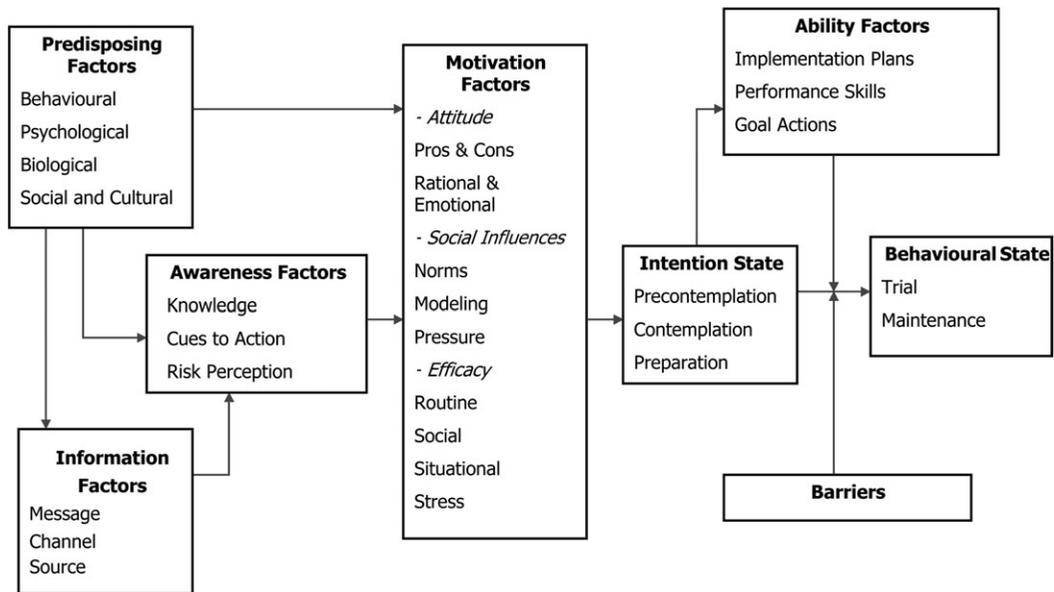


Fig. 2. The I-Change model [4].

One of the cardinal principles of health promotion activities is empowerment of the target group through their active participation in programme development [21, 22]. Participatory approaches allow interventions to be tailored to the needs of adolescents and may increase the acceptability and participation in such programmes [22–24]. Community analyses, in assessing the needs for health programmes, implicitly identify settings, programme providers and delivery formats. For example, through community analysis in Tanzania, soccer players were identified as role models for HIV/AIDS interventions [25, 26]. Community-wide approaches also use formative research to identify the programme content through behavioural need assessments with adolescents and other gatekeepers such as teachers [13, 27, 28].

However, little direct attention has been paid to other components that may influence the programmes' impact such as the provider, setting, delivery methods and programme context [29]. School-based smoking prevention studies have compared various types of programme providers (such as teachers, peers, a combination of teachers and peers, health educators and nurses) and delivery methods (such as group discussions, role-play, videos and films) [29]. The providers and delivery methods used across studies, however, have been diverse and the inconsistency both within and across studies have limited the ability to make definitive conclusions on the efficacy of these programme components [29].

The I-Change model [4] has provided a useful framework for addressing the motivational determinants of tobacco control programmes among adolescents in South Africa (SA), although some gender and ethnic tailoring is required (Panday *et al.*, in preparation) [30, 31]. These gender and ethnic differences are reflected in the higher smoking rates among males (26.7%) than among females (11.5%) and among Coloured (38.7%) and White (21.7%) adolescents than among Black (15.7%) adolescents [32]. [During the apartheid years, all South Africans were classified into race groups in accordance with the Population Registration Act of 1950, namely, Black African (people of African descent), Coloured

(people of mixed descent), Indian (people of Indian descent) and White (people of European descent). The authors in no way subscribe to this classification.] To ensure that interventions are also culturally sensitive, we explored adolescent preferences for the setting, timing, provider, delivery format as well as key elements of tobacco control programmes within urban/rural, gender and ethnic subgroups in SA. Both the prevention and cessation components of the tobacco control project included access point analyses which were conducted among students in the same study area. Considering that prevention and cessation are essentially elements of the same smoking continuum and the limited resources available to address multiple health priorities in SA, it was decided that a comparison of the prevention and cessation access point analyses would be undertaken.

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## Methods

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### Participants and sampling

The smoking prevention and cessation studies were conducted among school-going adolescents in the Southern Cape–Karoo Region, Western Cape Province, SA. SA has a high gross school enrolment ratio of 97% at primary school level (Western Cape 96%) and 91% at secondary school level (Western Cape 84%). Hence the school provided a useful point to access adolescents. At the time the studies were conducted, there were 34 public schools with Grade 6, 7 and 8 learners and 46 with Grade 8 and 9 learners. Schools were purposively selected based on the recommendations of the school health staff in the region based and on their locality (urban or rural) and ethnicity in accordance with the school's previous race classification under the apartheid government (Black African, Coloured or White). Ten schools were selected and participated in the prevention focus group discussions while six schools were selected and participated in the cessation study.

### Smoking prevention study

Twelve focus group discussions were conducted with Grade 6, 7 and 8 students (12–14 years old)

of mixed gender (see Table I). The schools provided a list of classes with Grade 6, 7 and 8 students from which classes were randomly selected. In a few schools, due to logistical constraints, class selection was based on the recommendations of the school principal. After a detailed explanation of the study in each of the selected classes, students were requested to volunteer for participation in the study. Six to eight volunteers were then randomly selected from the respective classes. A total 117 students, consisting of smokers and non-smokers (60 females and 57 males), volunteered to participate in the study. To ensure confidentiality, all research procedures were conducted in the absence of teachers.

### Smoking cessation study

Nine focus group discussions were conducted with Grade 8 and 9 smokers and ex-smokers of the same gender and, in most cases, ethnicity (see Table I). A list of classes with Grade 8 and 9 students was obtained from each school from which one class each of Grade 8 and 9 students (13–14 years old) was randomly selected from each school. A brief questionnaire was used to gather data on students' age, gender, grade and smoking status. A random selection of approximately four current smokers (smoked a cigarette or a part thereof in the previous 30 days) and four ex-smokers (stop-

ped smoking and smoke free for at least 6 months) from the respective classes were invited to participate in the focus group discussions. Where the prevalence of smoking was low in a class, more than one class was sampled per grade. Of the total of 74 students (24 females and 50 males) invited to participate in the study, 60 students (20 females and 40 males) agreed to participate. To ensure confidentiality, teachers were asked to leave the classroom during the research procedures.

### Consent

The Ethics Committees of the South African Medical Research Council and Faculty of Medicine and Dentistry, Umeå University, provided ethical approval for the prevention and cessation studies, respectively. Permission to conduct the studies was also obtained from the Department of Education, school principals, parents and students. Active, written consent was obtained from the parents and the students. Participants were informed both verbally and in writing that participation was voluntary and that the confidentiality of their information would be ensured. As individual confidentiality cannot be offered in a focus group discussion, group confidentiality was stressed at the outset and during the closure of each discussion. Permission was also obtained from participants to tape-record the focus group discussions.

### Focus group discussion guides

Structured focus group discussion guides were developed based on the I-Change model [4] and information from literature reviews. Themes explored included awareness of and participation in tobacco control programmes, the preferred setting, timing, provider and delivery format as well as key elements of tobacco control programmes.

The focus group discussion guides were prepared in English and translated from English to Afrikaans and Xhosa. To ensure the accuracy of the translations, the Afrikaans and Xhosa versions of the focus group discussion guides were back translated to English. The prevention focus group discussion guide was piloted among students in

**Table I.** Number of focus group discussions conducted in the prevention and cessation studies according to location, race and gender criteria

	Urban		Rural	
Prevention study				
Black	2		2	
Coloured	2		2	
White	2		2	
Subtotal	6		6	
	Urban		Rural	
Cessation study	Male	Female	Male	Female
Black	1	—	1	—
Coloured	1	1	1	1
White	1	1	1	—
Subtotal	3	2	3	1

the study area and the cessation focus group discussion guide was piloted among students in Cape Town but adjusted to the dialect in the study area. The focus group discussions were approximately 90 min in duration and were moderated by the researchers and several trained research assistants. The data were transcribed and translated into English according to uniform guidelines. To verify the accuracy of the translations, sections of the Xhosa and Afrikaans transcriptions were translated by a second person.

### Data collection

Several steps were taken to ensure that the integrity of the data was not compromised by researcher bias. Data collection for the prevention and cessation focus group discussions were triangulated using several moderators. An observer was present at each discussion to record detailed notes on the content of the discussions, non-verbal cues and the procedure used in the discussions. Debriefing sessions were held after each discussion to reflect on the discussion as well as personal feelings arising as a result of the discussion. The researchers also maintained extensive field notes that were revisited on completion of the data analyses to ensure that personal biases did not influence the findings. Data were collected until a point of redundancy was reached. The consistency of the findings between discussions and across the prevention and cessation focus group discussions also serve as a validation of the findings.

### Data analysis

The data analysis process was managed using QSR Nudist version 4. Data were analysed thematically. The focus group discussion guides were used to create a tree of themes and new themes were assigned to data that did not fit the existing codes. At the first level, themes within the prevention and cessation focus group discussions were synthesized; at the second level, urban/rural, gender and ethnic similarities and differences were explored while at the third level, similarities and differences between the cessation and prevention

focus group discussions were identified. Quotations from the prevention and cessation focus group discussions are annotated as follows: PUS = Prevention Urban School, PRS = Prevention Rural School, CUS = Cessation Urban School and CRS = Cessation Rural School. Unless indicated in the results, the findings described are applicable to all subgroups in the study (by race, location and gender). The quotations selected from specific focus group discussions best illustrate the findings being described.

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## Results

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### Awareness of and participation in programmes

Students' awareness of and willingness to participate in programmes to prevent or quit smoking were explored. Students were neither aware of nor had participated in formal tobacco use prevention or cessation programmes. The cessation focus groups expressed a willingness to participate in formal cessation programmes should they make the decision to stop smoking. Some of the cessation participants were, in fact, fearful of a formal programme as they were not ready to stop smoking. However, one of the cessation participants likened the usefulness of a formal smoking cessation programme to that of Alcoholics Anonymous (AA):

I don't think these patches, and stuff like that work [be]cause after a while you just start smoking again. So like with the drinking thing, like AA, those people stop. I think that a programme for smoking will work. (CUS)

### Setting and timing of programmes

In discussing preferred locations for smoking prevention and cessation programmes, the school environment was suggested as an important setting (see Table II) for three major reasons. Firstly, it compelled students to attend the programme. Secondly, schools were perceived as more accessible than alternative venues such as the community hall. Thirdly, prevention and cessation programmes

**Table II.** Summary of components for tobacco control programmes among adolescents in SA

Programme components	Recommendations
Programme setting	Multiple settings including the school Out-of-school settings where adolescents spend their time
Programme timing	During school hours Out-of-school activities over weekends and holidays
Programme providers	Non-judgemental and empathetic teachers and peers Ex-smokers who have experience in smoking
Programme delivery format	School-based participatory approaches such as small group discussions, role-plays and dramas Community-based mass media interventions such as television programmes and posters
Key elements of the programme	Recruitment: exciting, fun-filled activities Sustainability: integrate the programme into daily lives Comprehensive approaches with community- and policy-level interventions to support school-based programmes
Subgroups within the programmes	Joint programmes Some gender-sensitive sessions Sensitivity to the socio-economic status of the community

were regarded as an exciting alternative to the day-to-day school curriculum:

If it is in school time, they [students] haven't really got a choice, whether they wanna [want to] listen to it or not, they just do it. (PUS)

Because a lot of children come to school and you know instead of doing boring work you can do that fun programme. (PUS)

Some participants suggested out-of-school settings such as churches, parks, community centres, youth centres or clubs, special camps arranged over weekends or even private homes. Students also requested assistance not to smoke at places such as video arcades where they spend their free time away

from the supervision of adults. Participants in the cessation focus group discussions felt that the setting of the programme did not matter as much as the environment being comfortable and allowing them to socialize with friends:

Ja [Yes], ... where children hang out like video arcades you should have advertised that smoking is bad because there are children there who smoke and there are no parents or friends to guide them there .... (PUS)

Some participants felt that prevention and cessation programmes should be extended to weekends and school holidays as adolescents smoked more during these times compared with school days. The combination of the need to appear cool, the influence of friends, going out and contrarily boredom resulted in an increase in the number of cigarettes smoked over weekends and holidays. Other participants believed that programmes run over weekends and holidays would infringe on their private time:

During the December holidays I went out a lot with friends, then you tend to smoke a bit more, about ten per night. But now, about one or two per week. (CRS)

It is nice for me now to smoke only about three, four per month, I don't want to anymore, but during the holidays there is nothing to do, like sport or such things, then you rather smoke. And you also want to be cool during the holidays then you smoke more than during school time. (CRS)

### Programme providers

Potential providers of prevention and cessation programmes were discussed. The choice of a programme provider seemed to be determined by the past smoking experience of the provider rather than whether they were adults or peers. Both the prevention and cessation focus groups preferred ex-smokers who had experienced the health effects of tobacco use to facilitate smoking programmes (see Table II). Additionally, the cessation focus groups highlighted that ex-smokers would be

able to share their experiences of coping with an addictive behaviour:

He lost his vocal cords but it sounds weird, so scary because he had the microphone to his neck and actually ... you have a visual, you have somebody who's been through it. It actually scared them [students] off from smoking. (PUS)

I think we should get somebody who was very seriously addicted to smoking to tell how it was and how it feels now. (CRS)

Many participants in both the prevention and cessation focus groups expressed mixed feelings about adults who smoke (parents, teachers, health workers and religious leaders) as programme providers. This scepticism arose from the hypocrisy associated with adult smokers who reprimand adolescents for smoking. Some participants believed that potential programme providers need to stop smoking in order to increase their credibility as role models. Participants also objected to the disciplinary stance adopted towards smoking. They felt that the best way that adults could help was by communicating with them, expressing their willingness to help and building a trusting relationship with them:

The teachers are also sometimes the children's role models.... So, the children actually look up to their teachers and if the teacher smokes, they will also smoke. (PUS)

My mother said if she should catch me smoking then she will buy a packet of cigarettes and she will force me to eat up a whole packet of cigarettes and if I do it all the time then she will let me eat cigarettes again. (CRS)

They [parents] have to come to you with a better attitude, like he cares more. He comes to you now; 'oh, I'll ground you!' It's a sign that he doesn't really care. That's not playing a part in you by grounding you. (CRS)

Both the cessation and prevention focus groups were in favour of peers as programme providers. Much like the choice of adults as programme pro-

viders, some participants preferred smoking peers as they 'know how it feels' while others preferred non-smoking peers as they have higher credibility to present anti-smoking programmes. The prevention focus groups also specified that they preferred regular friends over high-achieving peers as programme providers. Contrarily, participants also called for the involvement of role models such as their sporting heroes to serve as champions of the anti-tobacco message:

I think friends who have stopped are better, because they know how it is and they know the disadvantages. Friends who have never smoked before don't know what to say, because they don't know what it is like to stop. (CRS)

Yeah, it doesn't have to be like the 'hoof seun' [head boy] and the 'hoof dogter' [head girl] or prefects and stuff. It just has to be normal people like me. (PUS)

### **Delivery format of the programme**

Participants were asked about the best ways that the programme could be presented to them. Both the prevention and cessation focus groups preferred participatory approaches that allowed for interaction with the programme provider as opposed to being passive recipients of information (see Table II). Many participants preferred the use of small group discussions as it provided an opportunity to share ideas and to relate to others with similar experiences as well as the involvement of friends who could provide the moral support that they needed to resist smoking. Other participatory approaches, such as role-plays and dramas, were also regarded as acceptable delivery formats provided that the messages were explicit:

Get a drama group ... you could have some humour in it and then some really like sad parts, something that's really interesting and touching, I think. (PRS)

Participants provided explanations for why other delivery formats were less preferred. One-on-one sessions with a provider or participation in large group discussions that emanated from a disciplinary

standpoint would render them shy and incline them to be less honest and less attentive. Lectures were also considered as boring and were unlikely to be effective:

Firstly, we've had it with [the principal] standing there in his very smart suit and going on and on ... about smoking and how bad it is for you and in English nobody needs! He keeps ramming it in, 'this is really, really bad for you and it does this to your lungs' and you just go to sleep. (PRS)

Some participants compared video shows to lectures as it did not provide the opportunity for feedback. Other participants believed that video shows or movies that were exciting and used ex-smokers as the actors could facilitate a discussion on tobacco. Television programmes, such as talk shows and dramas that are dedicated to health issues as opposed to posters, were also preferred as their evolving storyline and associated images would sustain their interest:

I think TV and radio and things you listen to and watch are the best things because posters you see them once and look at them and you read them ... and you just don't think about them because they are just always there and they get boring and you don't notice them. Whereas with TV programmes you watch them [be]cause something different is happening every time. (PRS)

### **Key elements of the programme**

During the course of the focus group discussions, participants raised several issues that were critical to the success of smoking prevention and cessation programmes. Participants believed that the programme's appeal could be enhanced if it took advantage of opportunities in their daily lives to promote non-smoking, for example, accepting the challenge to be smoke free so as to excel at sport. They also requested that it be a fun-filled experience where the focus on smoking was implicit and would inadvertently get smokers to quit:

It must almost be as if you don't feel you are there for a programme, then you will stop without even knowing about it. (CRS)

Participants believed that multi-sectoral approaches that reach beyond the individual level to encompass the community are also required (see Table II). Interventions that address adult smoking were seen as essential as adolescents model the behaviour of adults. Participants also referred to other social problems in their communities, such as high rates of alcohol use and poverty, which they regarded as inter-related with tobacco use.

Interviewer: When should the programme take place?

Participant: Sunday afternoon at the school ... Then the people are not drunk ... it is quiet. The people are sober .... (PRS)

Children want money for bread and she says 'no, I only have money for a cigarette, where am I going to get a cigarette if I give you this money', those kind of things. So she'd rather stay hungry because of smoking. (PUS)

Interventions at the legislative level, such as increases in the price of cigarettes, were regarded as effective measures to decrease smoking rates. Adolescents also made an appeal for the provision of recreational facilities that would provide an alternative to smoking and drinking:

... there is no play park or something like that ... now the children smoke or drink to kill time ... (PUS)

### **Subgroups within the programmes**

Participants were asked whether programmes needed to be presented separately to males and females. Two reasons were offered as to why gender groups should be combined in smoking programmes. Firstly, males and females smoked together, and secondly, differing perspectives on smoking could be presented by each of the gender groups. However, a few participants in the gender-specific focus groups felt that boys and girls would be shy to reveal personal information in the presence of the other gender group, such as initiating smoking to impress girls, although other participants believed that honesty precluded the need for shyness. Some

participants stressed that the motivation to quit was gender specific as a result of their ‘minds working differently’ (PRS), hence requiring separate programmes. The participants concluded that the programme could be presented to both gender groups with some gender-sensitive sessions (see Table II).

There were few urban–rural and ethnic differences in the elements of smoking prevention and cessation programmes. The differences that were found seem to be related to the socio-economic disparities and hence differing access to resources among the ethnic groups in SA. Due to historical reasons, in general, White adolescents enjoy higher socio-economic status than Black African and Coloured adolescents. Adolescents in rural schools felt that community-based programmes could not take place in school, due to the long travelling distances between the community and the school. They suggested that the programme take place at the farmer’s hall in the evening so that adults could participate. Furthermore, while Black African and Coloured participants referred to reading material as an effective means to represent the health effects of tobacco use, White participants reported that reading material would be ignored and discarded. They referred to the mass media and other innovative technologies such as computer games as effective delivery formats for smoking programmes:

I think that you should show this person things that are caused by smoking. Most people like to have books that show people with thin bodies. Explain to this person that, you are going to be like this and that, if you want to stop you’ll be healthy. (CUS)

I think seeing that we’re now going towards the computer age, they should make some computer games with that non-smoking, you know, like may be the little guy killing people that smoke. (PRS)

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## Discussion

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This paper describes adolescent preferences for the setting, timing, provider and delivery format

of tobacco control programmes as part of the I-Plan model for programme development. Furthermore, key elements of tobacco control programmes are discussed as well as the need for adapting the programme to urban/rural, gender and ethnic sub-groups. Adolescents expressed similar preferences for smoking prevention and cessation programmes thus supporting the concept that prevention and cessation respond to stages along the same smoking continuum. In a country with several competing health priorities, these similarities minimize the financial and infrastructural investment required to integrate tobacco control programmes into the school curriculum and diffuse them across the education system.

Participants were neither aware of nor had participated in formal smoking prevention or cessation programmes as has been found in other studies [33]. These findings are in line with the results of the South African Global Youth Tobacco Survey [32] that demonstrated that by 2002 only 42.1% of students had been taught in class about the dangers of smoking, only 30.1% had discussed in class why young people smoke and only 43.4% had been taught in class about the effects of smoking. It is clear that tobacco education, whether formal or informal, is not receiving adequate attention in schools even though space has been created for formal teaching as part of the life orientation learning area in the recently implemented outcomes-based school curricula.

However, students were willing to participate in such programmes as they recognized that the addictive nature of tobacco use necessitates structured programmes with adequate social support, much like AA. Both qualitative [30] and quantitative [31] findings on the determinants of smoking cessation among adolescents in SA, using the I-Change model, have demonstrated the importance of social support from important others especially best friends to stop smoking.

While multiple settings were discussed, many students recommended the school as an important programme setting. School-based programmes have shown consistent, though modest, positive effects in delaying smoking onset [7, 34–36]. In offering

access to large groups of adolescents for a sustained period and the opportunity to positively channel peer pressure, the school setting has proven to be a useful and practical entry point for addressing socially motivated behaviours such as tobacco use. Some participants felt that the choice of the setting should be based on the comfort that the environment offered and the ability to socialize with friends. Stanton *et al.* [37] also reported that adolescent smokers preferred smoking programmes to take place during school time and that it would be easier to participate if friends were involved. These findings resonate with evidence that social support especially from peers is a key determinant of smoking prevention and cessation among adolescents [31, 32].

Two viewpoints were elicited with regards to out-of-school settings. Most participants believed that the programme should be extended to settings where they spend their free time especially over weekends and vacations when more cigarettes are smoked. Comprehensive approaches have been used to augment school-based programmes with out-of-school activities for smoking [4, 11, 12, 38] and for other health behaviours such as alcohol use [39]. The latter programme used peer-initiated, out-of-school, drug-free social activities such as movies held at school on weekends, dances and beach parties [39]. However, some participants were ambivalent about educational programmes scheduled during their private time. This finding was related to these students' desire for traditional gatekeepers such as teachers to not to exert control over their private time. There are two implications from this finding. Firstly, to meet the needs of the varying youth subcultures, clearly multiple access points would have to be considered. Secondly, it is imperative that providers with adequate credibility are sort for programme delivery.

Participants regarded the development of mutual trust and empathy as essential characteristics of the programme provider. In fact, trust is regarded as the most important quality of people who adolescents rely on for help [40]. Motivational interviewing that is characterized by non-judgemental, non-confrontational, empathetic and supportive

approaches may be an effective technique for adolescent smoking programmes [41, 42]. This technique has been used in the treatment of substance use and various other problem behaviours including smoking among adolescents [42].

While some adolescents preferred smokers as programme providers due to their experience in smoking, others preferred non-smokers due to their higher credibility. Both groups favoured ex-smokers as programme providers as they could offer personal experience in coping with an addictive behaviour and realism to the health consequences of tobacco use that are difficult for adolescents to perceive. Meetings with rehabilitated addicts have been used in smoking programmes [43], although caution must be exercised as fear appeals have been shown to be ineffective [3].

Adolescents had neither a preference for teachers nor peers as programme providers. The sustainability of school-based smoking prevention programmes in practice would depend on teachers as primary programme providers. Creating opportunities for teachers who smoke to quit smoking may increase their credibility as programme providers. Furthermore, the use of education or counselling strategies by teachers to address smoking as a health issue may help change the perception that the school views smoking as a disciplinary issue [44].

Participants also rejected the disciplinary stance adopted by their parents towards smoking. They called for parents to communicate with them and express a willingness to help. Authoritative parenting that is characterized by emotional support, appropriate behavioural monitoring and clear, bi-directional communication may be more effective in dealing with smoking than authoritarian parenting that is associated with fearful, timid behaviour [45–47]. More research is required in SA on the influence of parenting styles and practices on smoking behaviour for the development of comprehensive programmes that take into account individual, school, family and community influences.

Adolescents in the prevention focus group discussions preferred their regular friends as programme providers over high-achieving peers. Care should

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be exercised in the selection of peers to ensure that those in leadership positions are not automatically chosen. Smoking [48], alcohol use [49] and nutrition [50] programmes have effectively used peer leaders elected by classmates as programme providers [51]. Although there is some evidence for the effectiveness of peer-led health education, the method is not that easy to establish and to sustain [6, 43, 52]. Some evidence exists that peer leaders as a support to teacher-led programmes can be effective [7, 51], although more research on the effectiveness of this method is required [51].

Students preferred participatory delivery formats such as small group discussions that allowed for the sharing of ideas and experiences as well as moral support from friends. Balch [33] also showed that small group discussions involving trusted friends would be an effective means to help adolescents quit smoking. In accordance with the I-Change model, peer influence in the form of peer pressure and peer support has been shown to be an important determinant of smoking prevention (Panday *et al.*, in preparation) and cessation [31] in our study findings. Participants believed that didactic methods such as video shows could be effective if they were used to facilitate discussions on tobacco use and if they could identify with the actors. In fact, a study that presented a social pressure curriculum using a videotape was more effective when it was supported by peer leaders [52].

While participants considered television programmes with changing story lines as effective delivery formats, they regarded posters whose novelty faded with time as ineffective. Plano Clark *et al.* [53] also reported that adolescents felt that anti-smoking media messages need to be more interesting and target youth better to effectively influence smoking. Mass media campaigns can have long-term effects on adolescent smoking rates if they are based on sound marketing principles, they are theoretically driven and their messages are based on the needs and interests of the target group [5, 12]. Taken together, these findings suggest that school-based participatory delivery formats must be supplemented with community-based mass media approaches.

Participants stressed that the programme needed to be fun filled and exciting to attract their attention. Balch [33] concluded that smoking cessation interventions will require considerable promotion to increase programme participation. Participants also felt that the sustainability of the programme depended on how well it was integrated into and accounted for the cultural context in which they live. They referred to high smoking rates among adults and other social problems such as alcohol use and poverty. They commented on the lack of recreational facilities and the affordability of cigarettes that perpetuate smoking. These findings are consonant with the ecological perspective of health promotion that recognizes individuals as inter-related to the larger social context in which they live, work and play [9, 54, 55]. Multi-sectoral solutions at the meso- (community) and macro-levels (policy) are therefore required to enhance the efficacy of school-based smoking programmes. Comprehensive approaches, such as the Minnesota Heart Health Programme [11], the North Karelia Youth Project [12] and recently the first randomized control trial [10], have shown how school-based smoking programmes can be supported by community-wide interventions such as media advocacy, family communication and sale to minors to reduce adolescent smoking rates.

While most participants felt that smoking programmes could be jointly presented to boys and girls, some gender-sensitive sessions were recommended due to the sensitivity of discussing issues such as initiating smoking to impress girls. Other studies also concluded that the function and meaning of smoking in the social lives of boys and girls are different [56]. While girls, for example, use smoking to cope with distress and boredom, boys smoke when they are stressed or angry [56]. The study also concluded that girls avoided addressing the topic of smoking to control weight as it might have been too personal, intimate or threatening to be discussed [56]. The use of participatory delivery formats such as small group discussions could accommodate these gender-sensitive sessions in coeducation schools. Additionally, smoking programmes can be presented to a racially diverse

audience as few ethnic differences, related to the socio-economic disparities among the ethnic groups in SA, were found in this study as well as on the motivational determinants of smoking [30, 31]. However, sensitivity must be applied to the ability of the community to participate in and sustain programmes that are high in financial and infra-structural demand. The similarities found among the subgroups can possibly be attributed to the participants' lack of awareness of formal prevention or cessation programmes and hence their reference to an 'ideal programme'. The pervasiveness of media through globalization means that youth from varying settings can in fact aspire to similar things.

Even though participants stressed the influence of friends in smoking during our assessment of the motivational determinants [30], they did not articulate the need for skills development to resist such influences. Both our qualitative [30] and quantitative [31] research findings have shown the need for coping skills to resist smoking in various stressful, social and routine situations. Additionally, Botvin *et al.* [57] have demonstrated the long-term effectiveness of teaching a combination of social resistance skills and general life skills in reducing tobacco, alcohol and marijuana use.

Despite the similarities across the ethnic groups in SA in the motivational determinants of and methods to access adolescents for smoking programmes, testing must be ongoing to ensure the cultural and language appropriateness of message framing. The definitive preferences of adolescents for programmatic components lend support to the need for access point analyses to become explicit objectives of programme planning models much like the I-Plan model. However, the programme design must take cognizance of discrepancies between the participants' preferences and the strength of the evidence base. For example, while the study findings indicate that students prefer ex-smokers as programme providers, the evidence indicates that this may not be an efficacious strategy. To achieve buy-in from the students and the teachers, the factors influencing final programme design and implementation, including resource and capacity constraints, may have to be discussed. Further-

more, to generalize the qualitative findings, the access point analyses must be used to develop survey research instruments. Even though the majority of the concepts explored in the prevention and cessation focus group discussion guides were similar, slight variations resulted in some issues being explored either in the prevention or cessation study. In this regard, exploring gender differences in the prevention focus groups was limited by the fact that the discussions were of mixed gender.

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