Scientific Research Publishing

Creative Education, 2025, 16(6), 701-725
https://www.scirp.org/journal/ce
ISSN Online: 2151-4771
ISSN Print: 2151-4755

Curriculum Approach for Integrating Tobacco Control into the Teaching of Mental Health Sciences in Secondary Schools in the DRC

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How to cite this paper: Patrice, M. K., Patient, K. M., François, L. Y., Barthelemy, B. K., Gustave, M. M., Alphonse, M. M., & Emery, K. L. (2025). Curriculum Approach for Integrating Tobacco Control into the Teaching of Mental Health Sciences in Secondary Schools in the DRC. *Creative Education, 16,* 701-725.
https://doi.org/10.4236/ce.2025.166043

Received: April 17, 2025
Accepted: June 2, 2025
Published: June 5, 2025

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Abstract

The World Health Organization (WHO) has been working to combat tobacco use globally for over a decade, establishing the Framework Convention on Tobacco Control (FCTC). More than 190 countries worldwide have signed this convention, strengthening their domestic policies to reduce tobacco consumption and protect their populations from the harmful effects of this highly dangerous substance. Article 12 of the FCTC requires education, communication, training and public awareness on tobacco control. The application of this provision requires a didactic and pedagogical guidance tool based on evidence. The DRC, which joined on June 28, 2004 and ratified the said framework convention on June 28, 2005, and which adopted in October 2010 a ministerial decree with an educational policy through health warnings, had never had a curricular approach that would serve as a guide for training in tobacco control in the teaching of health sciences. Assessing the level of integration of tobacco control into health sciences education in the DRC is imperative in order to assess the impact of this policy, document current integration, and identify gaps with a view to considering the construction of a tobacco control curriculum in the DRC, as this exercise does not only pose technical problems. They are also philosophical, political, and social. According to De Landsheere (1992), the concept of curriculum (plural: curricula) is still not very common in French-

speaking countries; the distinction between teaching program and curriculum is important. A curriculum is a set of planned actions to promote instruction. It includes the definition of teaching objectives, content, methods (including assessment), materials (including textbooks), and provisions for adequate teacher training. This is why, during our doctoral research, we addressed this question on "the curricular approach to tobacco control in the teaching of health sciences in the DRC".

Keywords

Educational Policy on Tobacco Control, Needs Studies for the Integration of a Curricular Approach in the Teaching of Mental Health Sciences in the DRC

1. Introduction

Article 12 of the WHO Framework Convention on Tobacco Control states that "education, communication, training and public awareness on tobacco control shall be priorities of Member States; each Party shall Endeavour to promote and strengthen public awareness of tobacco control issues, using, as appropriate, all available communication tools." (WHO Framework Convention, 2023)

To this end, each Party shall adopt and implement effective legislative, executive, administrative or other measures to promote:

- wide access to effective and comprehensive public education and awareness programs on health risks, including the addictive characteristics of tobacco use and exposure to tobacco smoke;
- raising public awareness of the health risks associated with tobacco use and exposure to tobacco smoke, as well as the benefits of smoking cessation and tobacco-free lifestyles;
- public access, in accordance with national legislation, to a wide range of relevant information concerning the tobacco industry in relation to the objective of the Convention;
- effective and appropriate training or awareness-raising programs on tobacco control for persons such as health workers, community workers, social workers, media professionals, educators, policy makers, administrators and other relevant persons;
- raising awareness and involving public and private bodies and non-governmental organisations not linked to the tobacco industry in the development and implementation of intersectoral tobacco control programmes and strategies; and
- public awareness of information concerning the harmful health, economic and environmental consequences of tobacco production and consumption, and public access to this information.

In the DRC, this provision of Article 12 of the FCTC has only been partially

implemented through the policy of self-education of smokers through health warnings on cigarette packets, non-punctual and occasional awareness-raising at the celebration of World No Tobacco Days, with the consequences today being the growing prevalence of smoking, especially among young people.

The creation of the mental health stream in the health sciences education of the Ministry of Public Health and Social Welfare has attracted our attention, to assess the level of implementation of the directives of Article 12 and to propose a curricular approach for the integration of structured tobacco control training not only in the health sciences education, but also to consider the capacity building required to apply this important provision of the FCTC on a large scale.

The evaluation carried out on the educational policy in the teaching of mental health sciences in Kinshasa, with the anti-tobacco union in accordance with the methodology required for curriculum development, has finally given the results based on evidence in this crucial area of life, thus this publication is of very significant importance for the anti-tobacco fight in the DRC.

2. Literature Review

Globally, tobacco use is one of the leading causes of death and preventable disease in humans. Nearly 80% of these deaths occurred in developing and low-income countries such as the DRC (WHO Framework Convention, 2023).

The WHO states that health problems caused by smoking are growing exponentially in developing countries. Indeed, 70% of deaths due to these problems are caused by tobacco addiction, also known as smoking. Cigarette companies and sellers conduct aggressive advertising campaigns to recruit new users, and often the target population is young people. The tobacco industry particularly targets young people, including male and female students. It presents tobacco as a symbol of power and modern values to encourage them to smoke.

In the Democratic Republic of Congo, the 2008 GYTS-RDC survey provided data on prevalence among students and exposure to tobacco smoke in the family or friendly environment (GYTS-RDC survey, Banza et al., 2008).

Based on the results of previous surveys, the prevalence of smoking is still increasing. **In the Democratic Republic of Congo**, the link between smoking and non-communicable diseases (NCDs) has evolved in a very alarming way since 2005. At the time, 3% of Congolese children aged 10 to 19 were already poly-drug addicts, according to the 2005 DRC Mini-Health Survey. This survey also revealed that 9.3% of young people smoked tobacco in their workplace, while chronic non-communicable diseases were beginning to weigh on the burden of tobacco-related disease in the DRC (Ministry of Public Health DRC, 2007).

Surveys such as STEP WISE, as well as other studies conducted by researchers at major universities in Kinshasa, Kisangani, and Lubumbashi, have shown worrying results. In Kinshasa, in 2005, smoking was associated with a 15.5% prevalence of diabetes and an 11% prevalence of high blood pressure (HBP) among people over the age of 15. In Kisantu, in 2012, a 4.8% prevalence of diabetes was

also linked to smoking. Furthermore, between 1969 and 2008, 4137 cases of cancer were recorded in Kinshasa, affecting women with cervical (27.7%) and breast (13.7%) cancers, and men with cancers of the lymphoid organs (15.9%) and Kaposi's sarcoma (14.5%) (STEP WISE-DRC Survey/2008).

In Kisangani, in 2014, a study revealed a prevalence of hypertension of 28.3% in the population over 18 years of age linked to smoking. The Global Health Observatory (WHO, 2015) also noted a prevalence of hypertension between 25% and 29.9% in adults. In Lubumbashi, in 2015, 49.3% of millers and 20.9% of guards suffered from hypertension, linked to tobacco and alcohol. In 2016, in Katana/South Kivu, a prevalence of 2.8% of diabetes mellitus was also associated with smoking and alcoholism.

In Butembo (eastern DRC, now facing war), in 2019, high blood pressure accounted for 5.29% of hospitalizations, linked to smoking and alcoholism. In 2023, a study conducted by Développement Gateway with support from the PNLCT revealed a tobacco prevalence of 18.5% among young people aged 10 to 17 in the DRC, while in Nigeria and Kenya, the prevalence was 4% and 6%, respectively (DaYTA study, 2023).

From all the above, we note that in the DRC, despite the written health warnings and illustrations on cigarette packets "smoking is harmful to health, tobacco seriously harms your health", "smoking is highly addictive" etc.; people and especially students still continue to smoke cigarettes massively and exhale the smoke even in public places, exposing others to passive smoking, a major risk factor for non-communicable diseases, in various public places. A recent study conducted by Development Gateway revealed a prevalence of 18.5% among young people aged 10 - 17 in 2023 (DaYTA study, 2023).

But alas! Although it is a major scourge in the DRC, the fight against tobacco is not taught enough in schools, the organization of its fight is not well established, its harmful effects are insufficiently communicated and this reveals several questions in terms of educational skills and material organization of its training, in particular:

- ✓ The lack of a clear and structured program for communicating the dangers of smoking;
- ✓ A course without specific objectives specifying tobacco control, organized in the teaching of health sciences;
- ✓ No defined profile for those involved in tobacco control in the DRC;
- ✓ No educational material recommended so far on the education of young people;
- ✓ No competent trainers for the transmission of attitudes and skills on tobacco control etc.

This is why all these problems must be resolved by starting with the development of objectives, methods and procedures in health sciences training in order to have tomorrow, the resources (nurses) capable of communicating and educating others effectively. However, such gymnastics requires the development of a smoking curriculum in secondary health sciences training, which justifies this

study which will contribute very significantly to the fight against tobacco in the DRC.

In this study, we ask ourselves the question of how to effectively integrate anti-tobacco education into the mental health sciences curriculum at the secondary level in the DRC, in order to promote healthy behaviors and prevent tobacco use among young people?

The aim of this study is to contribute effectively to the fight against smoking in the DRC, by training secondary school nurses in medical education.

Concretely, although the reference framework of the health sciences teaching department includes a course on drug addiction, this study aims to:

- Evaluate the course content
- Clarify teaching objectives
- Analyze teaching and assessment materials
- Define the internship profile
- Promote communication for behavior change within the community.

Our contribution explores the different teaching methods, educational resources, and teaching strategies that can be used to raise awareness among young people about the dangers of tobacco and encourage them to adopt non-toxic behaviors. It also analyzes the challenges and obstacles encountered in implementing this education in the school curriculum, as well as the expected results of this integration into the training of young people in health sciences.

Despite these alarming data, no review of educational policy on tobacco control has been undertaken, and the integration of this fight into the teaching of health sciences in the DRC remains non-existent.

In light of these findings, we formulated four hypotheses in this doctoral research:

1) The current level of education on tobacco control in the DRC is ineffective and does not correspond to the magnitude of health problems caused by smoking.

2) There is a lack of tobacco control education in secondary school nursing training.

3) The lack of objectives, methods and teaching materials in tobacco training hinders effective training aimed at promoting anti-smoking behaviour change.

4) The development of a tobacco control curriculum would allow its integration into health sciences teaching in Kinshasa and would promote its dissemination nationwide.

3. Methodology

To verify and confirm our hypotheses and build the curriculum for training on tobacco control in the DRC, we proceeded with a phenomenal qualitative study. It is a research approach that aims to understand and describe the lived experience of individuals in a particular context.

This is an action study in the field of tobacco control in the DRC in the sense that this fight remains today a public health priority in the national program to

combat drug addiction and toxic substances (PNLCT) and the WHO framework convention on tobacco control (FCTC) (WHO Framework Convention on Tobacco Control, 2023).

Methodologically, three internationally required approaches were sufficient to assess the issue:

- Documentary analysis on the extent of smoking, current educational policy,
- The study of the desires (desiderata) or wishes of stakeholders: survey of anti-tobacco unions, teachers, students, professionals, etc.
- The establishment of studies (deviations) (Masandi, 2025).

3.1. Sampling

To this end, the city-province of Kinshasa has three Medical Education Institutes (IEM) that organize the teaching of mental health sciences; all of these IEMs were the subject of our survey. Hence the exhaustiveness of our sample.

3.2. The Survey Population

In terms of documentary study; 5 educational documents were analyzed from 18 teachers from the 3 IEMs, in particular:

✓ The school program of the 6th department of health sciences,
✓ The class journal;
✓ The lesson distribution notebook;
✓ Lesson preparation sheets;
✓ The book of exam or quiz questions.

In addition to these 5 school documents, the educational policy on tobacco control in the DRC was also analyzed.

In terms of studying the desires and wishes (desiderata) of the experts, 18 teachers, 31 executives including 9 from IEM, 16 PNLCT and 6 from the 6th management, 92 students from 3 IEM and 4 Presidents of the board of directors of anti-tobacco NGOs were taken for the study.

For this study, the following techniques were used for systematic data collection:

- **Documentary analysis**: we proceeded by inventorying and exploiting the school documents of teachers from IEM, PNLCT and the secondary health sciences teaching department.
- **Structured interviews based on questionnaires**: the interview technique was chosen among the data collection techniques intended for this study. We had, on the basis of a questionnaire, organized interviews with teachers, students and managers of the IEM as well as with managers of the structures involved in the fight against tobacco.
- **Unstructured interviews based on questionnaires**: This technique was used to allow our respondents to approach the study question without being directed. We applied it to teachers, students and managers of IEMs as well as to managers of structures involved in the fight against tobacco.

- **The organization of focus groups**: different focus groups were organized with our study population in order to collect a wide range of empirical materials from a discussion with tobacco control NGOs in the DRC.

After collection, we coded the various completed questionnaires for entry into Excel 2013 software in order to create a database which was subsequently exported into the appropriate statistical analysis software (Kabali, 2012).

- Based on a pre-established plan, we carried out a statistical analysis of our data using SPSS version 21 software after designing the database in Excel 2013. We used the Chi-square test to analyze the proportions of teachers, students and stakeholders in relation to their opinions on the integration of tobacco control in the health sciences curriculum. The results were presented in text and table form.

4. Results

Health sciences education has just created a mental health training program, which is a good thing for the integration of tobacco control, which is a major mental health problem in the DRC.

The gaps found in our surveys on tobacco control education are:

✓ A course is planned in the health sciences curriculum at the 6th Directorate of the Ministry of Health, but without a structured subject on tobacco control.

✓ No elaborate teaching materials

✓ Course objectives not identified.

✓ Teaching methodology and assessment taxonomy not elucidated.

No training and support structure for tobacco control.

Analysis of the failure to consider the scale of the problem in the priorities of the Congolese government.

Another important gap discovered in this study is the non-prioritization of tobacco control in government programs even though the DRC adhered to and signed the WHO Framework Convention on Tobacco Control in 2005.

In many countries around the world, tobacco control has provisions in the constitution, while in the DRC, it was even difficult to pass a specific anti-tobacco law due to the lack of provisions in the fundamental law, which is the constitution.

The framework law on public health, which mentions the implementing measures on tobacco control, even though these measures are not yet in force.

However, these gaps confirmed the urgency of providing answers based on the evidence in this study including: the modification and supplementation of decree 010 of the Ministry of Public Health and Social Welfare, containing measures applicable to the use, circulation and marketing of tobacco, tobacco products and its derivatives and the development of a curricular approach that will allow the integration of tobacco control in training not only in mental health sciences, but also in the teaching of health sciences, national education and new citizenship in general and at all levels in the DRC (Ministry of Public Health DRC, 2007a).

The current level of education on tobacco control in the DRC is ineffective

and does not correspond to the magnitude of health problems caused by smoking.

Obviously, on the educational level, the country only has decree 010 of the Ministry of Public Health, Hygiene and Social Welfare concerning the policy of putting health warnings in French on cigarette packaging as the only self-communication approach for behavior change.

Through the efforts of the PNLCT, another decree was issued in 2022 by His Excellency the Minister of Health (decree 041), prohibiting the advertising, promotion, sponsorship of tobacco, tobacco products and its derivatives, as well as smoking in public places. These have not yet been popularized and are still suffering from implementation in the 3 pilot provinces where they were tested: Kinshasa, Kongo Central and Haut Katanga (Ministry of Health, decree 041/Kinshasa-DRC, 2022).

These provisions have serious limitations in their implementation, while our diagnosis of these policies with drivers revealed that 74.6%, or 540% drivers out of the 723 surveyed, do not understand that the health illustrations on the cigarette packet indicate the danger of smoking, compared to only 26%, or 183% drivers out of the 723 surveyed, who said they understood but it had not helped not to smoke (no educational impact).

The diagnosis on the knowledge of tobacco-related diseases also showed that 51.3% of drivers had no knowledge of diseases caused by cigarettes and 48.7% had imperfect knowledge of serious diseases caused by tobacco due to illiteracy.

Compared to other studies cited above, the diagnosis carried out among drivers in Kinshasa showed the limits of the educational policy through health warnings, which is why many drivers smoke cigarettes and do not have educational information regarding the harmful effects of the latter, the danger it represents for their health, the health of the community around them, as well as for their profession, in short the danger of tobacco is not well perceived by the community (O'Loughlin et al., 2009).

This hypothesis is confirmed by the diagnosis made in the IEM, where the drug addiction course, although included in the curriculum, is taught without substantial content on smoking. There is also a lack of objectives, theoretical and practical teaching methodologies specific to the fight against tobacco.

However, Article 12 of the WHO Framework Convention on Tobacco Control referred to above aims primarily to:

- Reduce health risks associated with tobacco use and exposure to tobacco smoke.
- Raise awareness about the benefits of quitting smoking and a tobacco-free lifestyle.
- Countering misinformation spread by the tobacco industry.
- Strengthen training programs for professionals such as health workers, social workers, journalists, educators, policymakers and administrators.

Awareness raising and participation of public, private and NGO organizations are also advocated to develop and implement effective intersectoral tobacco con-

trol programs and strategies (WHO Framework Convention on Tobacco Control, 2023).

This study aims to address a critical international issue, proposing a conceptual framework for an approach that would significantly improve health science education in the DRC. To complement this reflection, our discussions explored two essential variables for developing a curricular approach tailored to tobacco control:

1) Considering the extent of smoking: To solve a problem, understanding it is a crucial step that can lead to the beginning of a solution. We felt it was important to understand how the population perceives the tobacco problem.

2) A collection and analysis of perceptions on the extent smoking were carried out among four professional groups consulted in our surveys: teachers, experts, students and organizations involved in tobacco control, thus representing a diversity of points of view within the population.

The results obtained in these analyses made significant contributions:

Table 1. Teachers' opinions on the integration of tobacco control at the secondary level (IEM) of health sciences teaching.

Variable	Staff	Percentage
Completely agree	10	55.6
All right	6	33.3
Disagree	2	11.1
Total	18	100.0

As shown in **Table 1**, Tobacco is perceived as a major public health problem by teachers in health science institutions. Among them, 66.7% strongly agree and 33.3% agree. No teacher expressed a mixed or negative opinion on this subject. Thus, 100% of teachers surveyed affirmed that tobacco is a major cause of moral depravity, poverty, disease, and behavioral disorders, particularly among young people. They also deplored the ineffectiveness of the Congolese government's anti-tobacco interventions, while young people are highly exposed to its dangers. Furthermore, 88.9% of teachers consider smoking to be a socio-cultural and environmental problem. These findings confirm a long-standing WHO hypothesis that tobacco is not only a public health problem, but also a social and cultural one, causing harms such as loss of state revenue, divorce, school dropout, poverty, and poor sanitation. Therefore, it is imperative to integrate tobacco control into education to reinforce knowledge about its harmful effects, by adopting an appropriate curricular approach (Masandi, 2025).

The integration is 100% welcomed by tobacco control executives, who consider the approach very important at the secondary school level, since the consumption of tobacco, products, and its derivatives begins at a young age (**Table 2**). Therefore, starting training in this area early is a primary prevention best advised in

public health.

Table 2. Distribution according to the opinions of managers on the integration of tobacco control in secondary education (IEM).

Variable	Staff	Percentage
Completely agree	11	35.4
All right	16	51.6
More or less agree	4	13
Total	31	100

As indicated in Table 3, IEM students also share this perception: 40.2% fully agree with integration since smoking is a major public health problem, 39.1% agree, and 20.7% express a more nuanced opinion. No student opposed this idea. In developing curricula, it is essential to define the training objectives, the learner profile, as well as the prerequisites in terms of knowledge, skills, and interpersonal skills. These elements play a crucial role in the behavioral change process. The testimonies collected from students as part of this research highlighted the importance of didactics, teaching methodology, and assessment taxonomy in tobacco control. These aspects are essential for effectively training future health professionals. According to Roegiers (2001), quoted by Professor Masandi, the term "curriculum" encompasses all elements related to the student's training path. It includes not only the traditional components of study programs (purposes, content, etc.), but also teaching methods, educational materials, and formative and certification assessment systems (Masandi, 2025).

Table 3. Distribution according to students' opinions on the integration of tobacco control into medical humanities (IEM).

Variable	Staff	Percentage
Completely agree	37	40.2
All right	36	39.1
More or less agree	19	20.7
Total	92	100.0

From contributions of the4anti-tobacco civil society trade union organizations

Table 4. Integration of tobacco control in secondary education (ITM/IEM).

Variable	Staff	Percentage
All right	4	100.0

This 100% commitment from tobacco control NGOs confirms the main hypothesis of this study (Table 4). Another in-depth analysis, also conducted in this

study, revealed that 75% of anti-tobacco civil society organizations consider smoking to be a major public health problem (25% strongly agree, 50% agree, and 25% somewhat agree). This perception reinforces the idea that the effectiveness of tobacco control in many countries relies largely on these organizations. In the DRC, a tripartite collaboration between the Ministry of Health, the World Health Organization (WHO), and anti-tobacco civil society, established since 2015, plays a crucial role in tobacco control, with tangible impacts. The organizations also highlighted the serious effects of tobacco, including:

- Lack of essential nutrients (proteins, vitamins).
- Depletion of the soil used for its cultivation.
- Generation of many diseases causing deaths.
- Increase in its consumption, especially among young people, who represent the future of the country.
- Difficulty quitting in people addicted to nicotine.
- Spread of misleading information by the tobacco industry.
- Links to various social, cultural, environmental and economic issues.

These problems require increased government intervention to accelerate the implementation of anti-smoking policies (WHO Convention on Tobacco Control, 2003).

5. Discussions on Educational Desires to Integrate Tobacco Control into Secondary Education

The central question of this study concerns the analysis of needs regarding the integration of tobacco control into education, in accordance with the methodology required to develop a curriculum approach. Although the WHO has long expressed the desire to integrate this fight into education systems, no specific research had been conducted in the DRC until now. This study therefore focused on the aspirations of various segments of the population in order to address this concern.

According to Audigier (2006), taking up the analyses of Crahay and Forget, cited by Professor Alphonce Masandi Milondo: "curricular changes arise from societal transformations, mainly economic and political. The evolution of the economic structure of society determines curricular transformations." (Masandi, 2025)

With this in mind, this research explored the desires (desiderata) of the following groups:

Nearly 100% of teachers surveyed favor the integration of tobacco control into teaching, demonstrating its importance for the development of an appropriate curricular approach in health sciences in the DRC.

Reasons given:

✓ Schools are full of a large number of adolescents who constitute the greatest exposed target (adolescence is the age of imitation, confirmation, and in fact puberty).

✓ Integration strengthens communication for large-scale behavior change (at school, several categories are made aware: teachers, administrative staff, students, etc.).
✓ School is a medium of rapid education (school is the mother of education).
✓ Prevention will be known well in time from school
✓ School complements family education.
✓ School is an environment for learning and transforming scientific knowledge etc.

The analysis in this study also aimed to assess what is the best level of integration of tobacco control:

- The majority of our sample would like this integration to begin in secondary school, where young adolescents are already introduced to tobacco consumption, tobacco products and its derivatives at a young age.
- Given the magnitude of the smoking problem, integration at higher and university levels is desired in almost the same proportion as at secondary level.
- Overall, 72.2% of teachers want tobacco control to beintegrated into all levels of health sciences education in the DRC.
- This approach will not only promote the popularization of the Framework Convention on Tobacco Control, but would also help in the prevention and reduction of morbidity and mortality.

This approach would contribute to popularizing the WHO Framework Convention, while reducing tobacco-related morbidity and mortality. Moreover, no significant difference between teachers' professional categories and their support for this idea was observed ($p > 0.05$), revealing a general consensus for integrating tobacco control into teaching.

Thus, a curricular approach should include the training of nurses, doctors and pharmacists, strengthening the knowledge of health professionals at each stage of their journey.

The integration of tobacco control is seen as an opportunity to quickly raise awareness among students about the harmful effects of tobacco, while teaching techniques would facilitate the mastery of preventive measures.

This hypothesis was reinforced during the conference held at the Higher Institute of Medical Technology (ISTM) in Kinshasa. Students expressed their desire to be better informed about tobacco control, for the following reasons:

✓ Communicate well with fellow smokers.
✓ Educate in training and on the ground.
✓ Supporting those seeking care.
✓ Educate patients to reduce tobacco-related illnesses, positively influence those they care for, and advise patients on the dangers of smoking and methods to quit.
✓ Reduce the prevalence of smoking among patients.
✓ Master the concepts of the risks of tobacco with a view to teaching others as well.
✓ Know how to treat smoking.

✓ Limit the rate of smoking, especially in educational and professional environments.

Teaching tobacco control at institutions such as the ISTM is essential, not only for public health, but also to better equip future healthcare professionals for their educational and medical roles. This is why, moreover, the training of tobacco specialists will remain at the highest level.

In addition, Education plays a crucial role in training individuals for and by society, with each member having the responsibility to actively participate. It represents a tool for realizing a societal project. Thus, the educational process, whether formal or informal, attracts particular attention within the community. IEM students participated in a reflection on the integration of tobacco control into health sciences teaching. According to the analyses, no significant link was established between their perception of the current ineffectiveness of education and communication programs for behavior change regarding tobacco and their opinion that tobacco control should be integrated into all levels of education ($p > 0.05$). However, this did not influence their overall desire to see this integration take place at all educational levels (O'Loughlin et al., 2009).

Likewise, Tobacco control unions and associations play a key role in developing educational approaches and their future implementation. Building consensus within these structures fosters acceptance of proposed reforms and strengthens the integration process. In this study, the Higher Institute of Medical Techniques (ISTM), as an extension of secondary education in health sciences, illustrates the importance of these approaches. Thus, 100% of the NGOs surveyed support the integration of tobacco control at all levels of education. Given the multiple harmful effects of tobacco—on health, the environment, the economy, and sociocultural aspects—the NGOs emphasize the need to also include this fight in the curricula of medical schools in the DRC.

These organizations emphasize, in particular, the urgency of integrating the study of the WHO Framework Convention on Tobacco Control (FCTC). They point out that it is surprising to note that some regional chief physicians are unaware of this treaty, despite it being the first international agreement negotiated by almost all countries.

Anti-smoking training priorities, according to associations

1) Training on the concepts of the risks of tobacco, citing all the diseases of the smoker's body (active smoking).

2) Demonstration that the risks of exposure to tobacco smoking are the same and more serious in non-smokers or passive smokers.

3) Health warnings must be illustrated and taught in four national languages so that they are clearly understood by all cigarette users and facilitate comprehension at all levels.

4) The integration and teaching of the body of smoking translated into 4 national languages on the cigarette packet or opting for neutral packaging like other countries.

5) Anti-smoking education should begin in preschool and continue through primary, secondary and higher education.

6) Insist in the course on the prohibition of sales to minors and by minors, which is also non-negotiable.

7) The explanation of the benefits of smoking cessation and other treatment approaches in the final year of secondary and higher education by integrating the practices of assessment by the fagestrom during internship (the country has no support structure to date).

8) Debunk fraudulent information about the tobacco industry and strengthen training programs for health workers, community workers, social workers, media professionals, educators, policy makers, administrators, etc. (WHO Framework Convention on Tobacco Control, 2023).

6. General Conclusion

Our research confirmed all hypotheses, thus highlighting the relevance of this article to the DRC. Discussions focused on the current state of tobacco control in the DRC, the integration of this fight into health sciences teaching at the secondary level, the challenges of tobacco control didactics, and ultimately: the design of a curricular approach to training health professionals.

Integrating tobacco control into health sciences education is of paramount importance. It benefits from a significant advantage in the DRC, as the existence of the National Pilot Institute for Health Sciences Education (INPESS), ideal for testing the anti-tobacco curricular approach, is an opportunity.

An advocacy must be made by the PNLCT via the Health Sciences Education Directorate and to His Excellency the Minister of Public Health, the Secretary General for Health and the WHO for the integration of anti-tobacco training in the teaching of mental health sciences, in national education and the creation of a TOBACCOLOGIST diploma at the senior level of health professional training in the DRC. The evidence from this study gives rise to good action based on evidence in the DRC.

The curricular approach to tobacco control is an essential tool for guiding reflections and policy directions in this area. An in-depth analysis of the various documents of the WHO Framework Convention on Tobacco Control, a diagnosis of Congolese education policy on tobacco control, and consultation with unions and experts, as well as students, helped to identify the gaps between the extent of smoking in the DRC and its current level of tobacco control, with a view to proposing a comprehensive scientific approach that will serve as a general guide for teaching tobacco control in the DRC (WHO Framework Convention on Tobacco Control, 2023).

This approach covers 7 important areas, namely: the area of objectives of tobacco control education (i), the area of contents of tobacco control training (ii), provisions for adequate teacher training (iii), the area of analysis of psychological problems of the student (learner) on tobacco control (iv), the area of methods of

tobacco control education (v), the area of teaching materials and supports (vi), the area of evaluation of tobacco control education (including textbooks on tobacco control) (vii) (Hadji, 1992) (**Figure 1**).

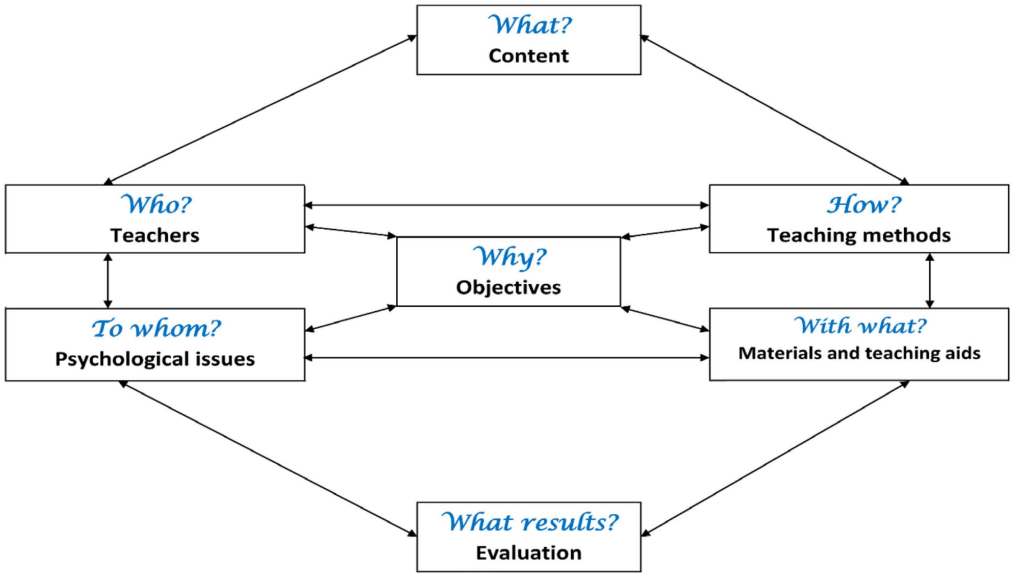

Figure 1. Conceptual framework of the curricular approach to teaching tobacco control in the DRC.

I. Area of Objectives for Teaching Tobacco Control:

Guiding principles

A) Purposes of anti-smoking education:

Given the extent of smoking as a major determinant of non-communicable diseases and socio-economic-cultural and environmental problems, teaching on tobacco control should aim to produce tobacco specialists.

A tobacco specialist is a mental health professional capable of communicating to change anti-smoking behavior. A new type of person in a society where education and continuing education prepare for a healthy lifestyle, an understanding of dangers, solidarity in protecting others, individual development, and the promotion of local values.

He will be called a professional communication relay and will act as a link between the community relay and health professionals at all levels of the health system (SYNERGY OF INITIAL AND CONTINUING TRAINING).

The tobacco specialist must be certified by module, and the end of the internship gives rise to a tobacco specialist diploma, this must be signed by the Secretary General for Public Health, Hygiene and Prevention in the DRC (Ministry of Public Health DRC, 2007b).

B) General objective of teaching on tobacco control:

Contribute to the reduction of morbidity and mortality linked to smoking.

C) Specific Objectives:

The training of tobaccologists should be categorized into a specialized diploma at 4 levels which are for all health professionals (A2 nurses, graduate nurses, public

health graduates, pharmacists and doctors) as well as clinical psychologists.

a) The level 1 tobaccologist who has completed the first module will be able to:

1) Define key and related concepts on smoking, tobacco and its derivatives,
2) Master the different forms of tobacco,
3) Know the different ways of consuming tobacco
4) Describe the epidemiological aspect of smoking,
5) Learn about the historical overview of tobacco control in the DRC
6) Master the types of toxic substances that make up tobacco and the specific impact of nicotine.

b) The level 2 tobaccologist who has completed the second module will be able to:

1) Control the factors that encourage tobacco consumption,
2) Understand the harms of tobacco consumption
3) Differentiate between types of smoking
4) Master how to diagnose smoking.

c) The level 3 tobaccologist who has completed the third module will be able to:

1) Master the Prevention and management of tobacco use,
2) Master the strategies of the tobacco industry,
3) Master the methods of tobacco control at the health zone level in the community.

d) The level 4 tobaccologist who has completed his training will be able to:

1) Master the techniques of smoking diagnosis,
2) Master smoking prevention techniques,
3) Master the management of smoking,
4) Master the methods of combating tobacco industry strategies.

NB: These 4 levels also correspond to the initial training of IEMs (from 1st to 4th A2).

II. Area of Content of Training on Tobacco Control

Guiding principles

Concepts of tobacco control have evolved to define themselves as means that should lead to the tobacco specialist's way of appropriating acquired knowledge, dissolving it in their thinking, and reinvesting it in all the circumstances of their lives. This is a new approach to the content of tobacco control learning, an instrument of emancipation, integrative and transversal (Masandi, 2025).

The subject of tobacco control is therefore no longer an end, but a means which integrates the increasingly necessary functional interrelationships between school and extracurricular activities.

✓ Learning content invested as a factor in safeguarding our environment.
✓ Learning content seen as a means of enhancing our resources.
✓ Learning content perceived as determinants of learner performance assessment.

CONTENTS OF THE THEORETICAL TRAINING MODULE FOR A LEVEL 1 TOBACCOLOGIST

CHAP.I. DEFINITIONS OF KEY CONCEPTS ON TOBACCO CONTROL

1.1. TOBACCO

1.2. NICOTINE

1.3. PSYCHOACTIVE SUBSTANCE

1.4. ADDICTION

1.5. ABUSE

1.6. DRUGS

1.7. DRUG ADDICTION

1.8. A DRUG ADDICTER

1.9. SMOKING

1.10. MENTAL HEALTH

1.11. THE WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL

1.12. THE TOBACCO INDUSTRY

1.13. TOBACCO INDUSTRY INTERFERENCE

1.14. THE FIGHT AGAINST TOBACCO

1.15. TOBACCO SPONSORSHIP

1.16. TOBACCO PRODUCTS

1.17. TOBACCO ADVERTISING OR TOBACCO PROMOTION

1.18. ILLEGAL TRADE

CHAPTER II. FORMS OF TOBACCO IN THE WORLD

2.1. SMOKE-CONTAINING TOBACCO

2.2. SMOKELESS TOBACCO

2.3. OTHER VARIETIES OF TOBACCO

CHAPTER III. HISTORY OF TOBACCO CONTROL IN THE DEMOCRATIC REPUBLIC OF CONGO

4.1. INTRODUCTION TO TOBACCO FIGHT IN THE DRC

4.2. THE ORGANIZATION AND OPERATION OF TOBACCO FIGHTING IN THE DRC

4.3. MAIN GUIDELINES FOR TOBACCO CONTROL

CHAPTER IV. EPIDEMIOLOGY OF SMOKING

3.1. GLOBAL DATA

3.2. DRC DATA

CHAPTER V. TOBACCO TOXICOLOGY

5.1. THE CHEMICAL COMPOSITION OF TOBACCO

5.2. THE SPECIFIC IMPACT OF NICOTINE. (Okitolonda, 2012)

Total number of hours: 25 hours

CONTENTS OF THE THEORETICAL TRAINING MODULE FOR A LEVEL 2 TOBACCOLOGIST

CHAPTER I. ANALYSIS OF FACTORS PROMOTING TOBACCO CONSUMPTION

1.1. ADOLESCENCE AND SMOKING INITIATION

1.2. SMOKING AND YOUNG PEOPLE

1.2.1. AGE
1.2.2. THE PERSONALITY
1.2.3. BELIEFS
1.2.4. EXTERNAL INFLUENCES

- FRIENDS
- THE FAMILY
- TELEVISION, CINEMA AND THE WEB
- ACCESS TO TOBACCO PRODUCTS
- INDUSTRY TACTICS
- POVERTY AND LACK OF EMPLOYMENT

CHAPTER II. TYPES OF SMOKING
2.1. ACTIVE SMOKING
2.2. PASSIVE SMOKING
CHAPTER III. HARMFUL EVENTS OF TOBACCO CONSUMPTION
2.1. HEALTH DAMAGES
2.1.1. ON THE MENTAL LEVEL (THE BRAIN AND NICOTINE)
2.1.2. CARDIOVASCULAR DISEASES
2.1.3. CANCERS
2.1.4. RESPIRATORY DISEASES
2.1.5. THE HUMAN BODY'S IMMUNE SYSTEM
2.1.6. EFFECTS ON PREGNANCY
2.1.7. GASTROINTESTINAL EFFECTS
2.1.8. EFFECTS ON THE MOUTH
2.1.9. THE HARMFUL EFFECTS OF TOBACCO ON THE SKIN
2.1.10. EAR PROBLEMS (ENT)
2.1.11. OTHER HEALTH EFFECTS
2.2. ON THE ENVIRONMENTAL LEVEL
2.3. ON THE SOCIAL LEVEL
2.4. ECONOMIC DAMAGES
2.5. SMOKING AND SUSTAINABLE DEVELOPMENT
CHAPTER IV. DIAGNOSIS OF SMOKING (FAGESTROM)
4.1. ASSESSMENT OF NICOTINE DEPENDENCE
4.1.1. METHOD 1: FAGERSTROM TEST FOR NICOTINE DEPENDENCE
4.1.2. METHOD 2: ASK TWO SIMPLE QUESTIONS. (Muyanga, 2012)

Total number of hours: 45 hours

CONTENTS OF THE THEORETICAL TRAINING MODULE FOR A LEVEL 3 TOBACCOLOGIST

CHAPTER I. THE FIGHT AGAINST THE STRATEGIES OF THE TOBACCO INDUSTRY
1.1. TOBACCO INDUSTRY INTERFERENCE
1.2. DEvious Strategies
1.3. METHODS OF COUNTERACTING TO TOBACCO INDUSTRY STRATEGIES
1.4. SPECIFIC CASE STUDIES

CHAPTER II. MANAGEMENT OF SMOKING

2.1. SMOKING PREVENTION

2.2. MEDICAL TREATMENT

2.3. PSYCHOSOCIAL SUPPORT

2.4. WEANING

2.5 PREVENTION MAINTAINS RELAPSES

CHAPTER III. HUMAN RIGHTS AND SMOKING. (Radja, 2006)

Total number of hours: 45 hours

CONTENTS OF THE PRACTICAL TRAINING MODULE FOR A LEVEL 4 TOBACCOLOGIST

CHAPTER I. TRAINING ON SMOKING DIAGNOSTIC TECHNIQUES (CASE STUDY)

CHAPTER 2. COMMUNITY HEALTH INTERNSHIP ON SMOKING PREVENTION TECHNIQUES IN THE COMMUNITY

CHAPTER 3. TRAINING COURSE ON SMOKING MANAGEMENT (CASE STUDY)

CHAPTER 4. INTERNSHIP ON FIGHTING TOBACCO INDUSTRY STRATEGIES (CASE STUDY). (Yansenga, 1973)

Total number of hours: 60 hours

III. Field of Provisions Relating to the Adequate Training of Teachers on Tobacco Control

FINDINGS ON CURRENT ANTI-TOBACCO TEACHERS IN THE DRC:

✓ Current teachers are underqualified and lack the expertise to combat tobacco.

✓ Previous training of doctors, nurses and other health professionals in the DRC had not yet integrated the tobacco specialist training program.

✓ Tobacco control worldwide is very dynamic and requires regular upgrading to deal with interference from the tobacco industry.

✓ The development of this curricular approach will guide teacher training in tobacco control in the DRC.

Guiding Principles:

Teacher training is a very important area in tobacco control education in the DRC.

New teacher trainer profile

✓ The teacher must abandon the traditional master-student (transmitter-receiver) relationship

✓ The teacher must adopt a filter and mediator position

✓ The teacher must develop the learner's critical sense

✓ The teacher must treat the learner as a subject responsible for his choices

✓ The teacher must act as a stimulant to individual effort and group work.

✓ The teacher must be a non-smoker and not affiliated with the tobacco industry.

Teacher resource person for the entire community and as such must:

✓ Carry out relevant, coherent and systemic educational action.

✓ Know how to obtain the support of all components of society.

- ✓ Participate in defining resources, the quality of tools, evaluation procedures and operating rules of the school.
- ✓ Involve other leaders in your action.

PURPOSES

The teacher is expected to:

- ✓ Has a clear awareness of the country's tobacco control needs, the populations and its learners who must be protected.
- ✓ That it participates effectively in the training of development agents, managers and resource persons in communication for anti-smoking behavior change. (Mialaret, 1991)

IV. AREA OF PSYCHOLOGICAL PROBLEMS IN TOBACCO CONTROL

Guiding Principles:

Tobacco (cigarette) consumption is a psychological phenomenon for which it is necessary to understand and master how to organize its teaching.

- ✓ Teaching materials should be used without influencing consumer psychology.
- ✓ The teacher must be a non-smoker to serve as a role model so as not to psychologically influence the learners.

Psychologically, anti-smoking advice from a smoking teacher may be rejected.

The promotion, advertising and sponsorship of tobacco, tobacco products and its derivatives, is based on psychological facts.

Big stars are used to influence and support the psychological promotion of tobacco.

- ✓ Pay attention to the psychological influence of the tobacco industry, which does everything to create psychological support for tobacco consumption among children.

Example 1: The sale of candy shaped like cigarette sticks is the basis for the increase in cigarette consumption among young people.

Example 2: Selling notebooks with pictures of cigarettes psychologically promotes cigarettes.

The sale of tobacco products to and by children is strictly prohibited.

- ✓ Another problem is the psychological influence of friends.

When you walk with a friend who smokes, there is a risk that you will smoke one day.

- ✓ Preventing tobacco use affects girls differently than boys.
- ✓ Gender-specific aspects will therefore be taken into consideration in educational discussions.
- ✓ Consider the current issue of nicotine use: this chemical substance which attaches to the brain and modifies its functioning (dopamine), a temporary feeling of well-being. Nicotine: not carcinogenic, but responsible for dependence.
- ✓ The industry is now making a great effort to psychologically differentiate between smokeless and smoked tobacco products, even though both contain nicotine.

V. Area of Tobacco Control Teaching Methods

Guiding Principles:

✓ To be effectively implemented and delivered, anti-tobacco learning content must take into account the number of learners and how they are grouped.
✓ Learner participation schemes can influence learning about tobacco control.
✓ Testing of prior knowledge through brainstorming is encouraged.
✓ The materials to be used to support anti-smoking education must match the methods used.
✓ Attention or distraction observed in the classroom can be supported by good teaching methods.
✓ The contribution of a third party in the class (another speaker) can influence teaching on tobacco control.
✓ How to teach weighs on results as much as what to teach.

These methods should be encouraged to teach attitudes, skills and knowledge about tobacco control:

- Correct information on the harmful effects of tobacco and the various tobacco-related diseases.
- Health professionals, educators, and tobacco control teachers must provide the examples, experiences, and role models that shape anti-smoking attitudes.
- Discussions on active and passive smoking in small groups.
- Role play is a good method to use to teach attitudes about smoking prevention (example: Learner A plays the role of a health professional and Learner B plays the role of a mother or grandmother).
- The descriptive method (explain the use of the Fagestrom test for screening for tobacco dependence).
- The demonstrative method which must be exact, visible and explained.
- Teaching through practical work during internships.
- Case studies of smoking victims.
- Simulations and projects especially in teaching tobacco control skills.
- The inductive and deductive method on the facts of the fight against tobacco, especially on withdrawal.
- The expository method for teaching knowledge about the composition of toxic substances in tobacco.
- The interrogative method for carefully checking knowledge about new emerging tobacco products, shisha, electronic cigarettes, etc. (http://www.doctissimo.fr/html/files/tobacco/articles/8974–tobacco–fight–breathless.htm)

VI. Area of Teaching Materials for Teaching Tobacco Control

Findings on teaching materials for tobacco fighting in the drc:

- Teaching materials are in insufficient quantity in IEMs and healthcare structures
- Teaching materials are poorly adapted to the requirements of teaching on tobacco control.
- Educational materials do not reflect the realities of the dangers of tobacco.

The term "smoking is harmful to health for example: is misinterpreted by the to-

bacco consumer" See **Appendix**.

Guiding Principles:

After investigating the use of anti-tobacco teaching aids in health science teaching establishments, we propose that the various aids to be developed should:

1) Explain the chemical components of tobacco

2) Demonstrate the negative impact of nicotine

3) Translate the diseases of the body and lungs of a smoker into national languages

4) Translate health warnings into national languages

5) Support the reform on changing health warnings to graphics or pictograms and/or plain packaging on cigarette packets.

6) Produce diagnostic materials and practical teaching videos on smoking cessation.

VII. Field of Knowledge Assessment on Tobacco Control

Guiding principles:

✓ The assessment must be criteria-based: the criteria of assimilation and transfer capacities will be favored.

✓ The learner must self-assess before the teacher assesses him.

✓ When the teacher intervenes in association with another mediator, the two interveners must learn to co-evaluate.

✓ Assessment of the concepts taught on tobacco control must be assessed at the beginning of each lesson, during the training and at the end of the training.

✓ The assessment questions must verify knowledge, know-how and interpersonal skills.

✓ Assessment questions should adhere to the following general principles:

- Be clear and precise: end with action verbs (cite, explain, compare, define) etc.
- Questions on tobacco control evaluation should appeal to desired anti-smoking behavior.
- Questions must respect:

a) validity: cover important aspects of tobacco control (the WHO framework convention, harms or diseases linked to smoking, active smoking, passive smoking, etc.).

b) Reliability: The ability to produce reliable results even if the learner is assessed by multiple examiners. For example: What is the main substance responsible for addiction in cigarettes? A/NICOTINE.

c) Standardization: gives the same success and must be explained according to everyone's knowledge.

(https://quebecsanstabac.ca/je-minforme/dependance/comprendre-dependance)

NB:

- Multiple choice questions are easy to correct, correction is objective, ensures stability, ensures validity.
- A module respecting this curricular approach is available and must be integrated into the teaching of health sciences in the DRC.

The Tobaccologist

- ✓ A tobacco specialist will be a senior level tobacco control specialist.
- ✓ This training will take place at a higher level after initial secondary education (health school or higher institute).
- ✓ It will deepen the study of the WHO framework convention.
- ✓ She will explore brief methods of smoking cessation.
- ✓ It will guide scientific research on tobacco control.
- ✓ Since those currently teaching tobacco control are not qualified, tobacco specialists will support the tobacco control teachings proposed in the curricular approach above.

NB: To avoid duplication, this approach will be launched at the pilot institute for health sciences education after the first training of the first tobacco control teachers. It will be the subject of another reform study on tobacco control education in the DRC and a documented trial in perspective.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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Link

http://www.doctissimo.fr/html/files/tobacco/articles/8974–tobacco–fight–breathless.htm

https://quebecsanstabac.ca/je-minforme/dependance/comprendre-dependance

Appendix

Desires Evaluation Sheet (Desideratas) on the Need to Integrate Tobacco Fight into Health Sciences Teaching in the DRC

Check your choice of one answer in the corresponding section:

No.	QUESTIONS BY AREAS	YOUR CHOICE			
		Completely agree	All right	More or less agree	Disagree
	Knowledge of the problem				
01	In your opinion, is the consumption of tobacco, tobacco products and its derivatives a public health problem?				
02	In your opinion, is the consumption of tobacco, tobacco products and its derivatives also a social, cultural, economic and environmental problem?				
	Level of education or communication against tobacco in the DRC (NB: assess the single level: either effective or ineffective)				
01	In your opinion, is the current level of education and communication for anti-smoking behavior change effective in the DRC?				
02	In your opinion, the current level of education and communication for anti-smoking behavior change is ineffective in the DRC?				
	Evaluation of Desiderata to Improve Education and Communication for Anti-Tobacco Behavior Change in the DRC				
01	The increase in the selling price of tobacco, tobacco products and its derivatives.				
02	Ban on smoking in public places				
03	The arrest of smokers				
04	Integrating tobacco control into health science education				
	After your choice on integration, in the teaching of health sciences, this level is more desirable.				
01	In secondary school at ITM/IEM				
02	At the ISTM				
03	At the Faculty of Medicine				
04	At all levels				
	Your own commentary to improve anti-tobacco education and communication in the DRC.				