

Global Youth Tobacco Survey 2008

and

Global School Personnel Survey 2008

Report

for

Mauritius and Rodrigues

Ministry of Health and Quality of Life, Republic of Mauritius
World Health Organization
Centres for Disease Control and Prevention, USA

Global Youth Tobacco Survey 2008
and
Global School Personnel Survey 2008
Report for
Mauritius and Rodrigues

Deowan Mohee

Survey Coordinator

World Health Organization

Foreword

In 1998, the World Health Organization, the Centres for Disease Control and Prevention and the Canadian Public Health Association initiated the Global Tobacco Surveillance System (GTSS) to assist countries in establishing tobacco control surveillance and monitoring programmes. GTSS includes collection of data through three school-based and one household surveys:

- the Global Youth Tobacco Survey (GYTS) for youth;
- the Global School Personnel Survey (GSPS) for adults;
- the Global Health Professions Student Survey (GHPSS) for adults; and
- the Global Adult Tobacco Survey (GATS) for adults.

These surveys are one step towards meeting the need for countries to establish surveillance programmes as stated in Article 20 of the Framework Convention for Tobacco Control of the World Health Organization:

“The Parties shall establish, as appropriate, programmes for national, regional and global surveillance of the magnitude, patterns, determinants, and consequences of tobacco consumption and exposure to tobacco smoke. Towards this end, the Parties should integrate tobacco surveillance programmes into national, regional and global health surveillance programmes so that data are comparable and can be analysed at the regional and international levels, as appropriate.”

The WHO is primarily responsible for the management and implementation of the GYTS at the global and regional level whereas the CDC plays a predominantly technical role. At the national level, the GYTS is managed through the governments.

In Mauritius and Rodrigues, the first GYTS survey was conducted in 2003 and the second one in 2008. The Global School Personnel Survey was first conducted in 2008. This report presents the objectives, methodology, findings and recommendations of the GYTS and GSPS conducted in 2008.

The Republic of Mauritius

The Republic of Mauritius is situated in the Indian Ocean and comprises of a main island, Mauritius, and a group of small islands including Rodrigues.

Mauritius has an area of 1,865 square kilometers with a population of 1.2 million at the end of 2007. Life expectancy was 69.1 years for males and 75.9 years for females and infant mortality rate was 15.3% per 1,000 live births in 2007.

Rodrigues is situated approximately 546 kilometres (350 miles) from Mauritius and covers an area of 110 kilometres. At the end of the year 2007, the population was 37,314. Life expectancy was 70.3 years for males and 76.2 years for females and infant mortality rate was 15.4% per 1,000 live births in 2007.

Acknowledgements

I wish to express my gratitude to the following persons and organizations for their contribution in the GYTS and GSPS surveys:

- Dr. Jean Pierre Baptiste and Dr. Nivo Ramanandraibe of the WHO Regional Office for their technical support;
- Dr. R. Munbodh, WHO Liaison Officer, Mr. A. Nundoochan, Administrative Officer, and the secretarial staff of the WHO Country Office for financial and logistical support;
- Dr. C. W. Warren, V. Lea, A. Goding, N. R. Jones and B. O'Hara of the Centres for Disease Control and Prevention, USA, for the trainings, data processing and continuous help;
- Mrs J. Veerapen, Senior Chief Executive, Dr. N. Gopee, Director General Health Services, Dr. V. Pauvaday, Director Health Services and Dr. N. Jaypaul, Director Health Services and Mr. D. Gaoneadree, Principal Assistant Secretary, Ministry of Health and Quality of Life, for their continuous support;
- the Ministry of Education, Culture and Human Resources, especially Mr.R. Nayeck, Coordinator (Health and Anti-drug), for facilitating the conduct of the surveys in the schools in Mauritius;
- the Commission for Education, Training, Arts and Culture, Library Services and Human Resource, especially Mrs E. Grandcourt, Acting Departmental Head, for planning the surveys in Rodrigues;
- Mr. P. Burhoo, Senior Researcher, Mauritius Institute of Health, for vetting the questionnaires and helping in data analysis;
- Mr N. Janoody, Chief Statistician, Ministry of Health and Quality of Life, for assisting in data analysis;
- Miss Vinoda Pitchamootoo, Health IEC Officer, Ministry of Health and Quality of Life for assisting in data analysis and editing;
- the Private Secondary Schools Authority for facilitating the conduct of the surveys in the schools in Mauritius;
- the rectors, teachers and students of the public and private secondary schools and confessional schools where the surveys were conducted;
- officers of the Health IEC Unit, Ministry of Health and Quality of Life, who served as Research Assistants for the survey;

- officers of the Commission for Education, Training, Arts and Culture, Library Services and Human Resource, Rodrigues, who served as Research Assistants for the survey; and

Table of Contents

	Page
Foreword	i
Republic of Mauritius	i
Acknowledgements	ii
1. Executive summary	1
1.1. Global Youth Tobacco Survey (Mauritius and Rodrigues)	1
1.2. Global School Personnel Survey (Mauritius and Rodrigues)	3
2. Introduction	4-6
3. Global Youth Tobacco Survey	7
3.1. Objectives	7
3.2. Methodology	8-10
3.3. Results	11-39
3.4. Discussion	40-52
4. Global School Personnel Survey	53
4.1. Objectives	53
4.2. Methodology	54-55
4.3. Results	56-67
4.4. Discussion	68-70
5. Recommendations	71-72
6. Appendices	73
A - Statistical Testing – Confidential Interval	73
B - GYTS Questionnaire (English)	74
C - GYTS Questionnaire (Creole)	81
D - GSPS Questionnaire	94
7. List of Tables	99
8. List of Figures	101
9. References	102

1. Executive Summary

1.1 Global Youth Tobacco Survey

The Global Youth Tobacco Survey 2008 was a school-based survey of students in Forms II to IV and aged 13-15 years. In Mauritius, 1,645 students participated in the survey and the students' response rate was 82.5%. In Rodrigues, 910 students participated in the survey and the students' response rate was 93.1%. The survey includes data on prevalence of cigarette and other tobacco use as well as information on the following determinants of tobacco use: knowledge and attitudes, access/availability, exposure to secondhand smoke, media and advertising, school curriculum and smoking cessation.

The main findings of the survey are:

Prevalence

- In 2008, 28.4 % of students in Mauritius and 35.9% in Rodrigues had ever smoked cigarettes compared to 31.3% in Mauritius and 54.5% in Rodrigues in 2003.

- In 2008, 13.7 % of students in Mauritius and 11.9% of students in Rodrigues were current cigarette smokers compared to 14.8% in Mauritius and 19.7% in Rodrigues in 2003.

Attitudes

- In 2008, 36.3 % of students in Mauritius and 44.9% in Rodrigues thought that boys who smoke have more friends compared to 34.8% in Mauritius and 41.4% in Rodrigues in 2003.

- In 2008, 13.6% of students in Mauritius and 24.1% in Rodrigues thought that girls who smoke have more friends compared to 13.2% in Mauritius and 21.4% in Rodrigues in 2003.

Access and availability

- In 2008, 51.8 % of current smokers in Mauritius and 25.1% in Rodrigues bought cigarettes in a shop or supermarket, compared to 56.3% in Mauritius and 33.5% in Rodrigues in 2003.

Exposure to secondhand smoke

- In 2008, 36.1 % of students in Mauritius and 36.0% in Rodrigues lived in homes where others smoke in their presence compared to 42.7% in Mauritius and 43.1% in Rodrigues in 2003.

- In 2008, 73.6 % of students in Mauritius and 57.2% in Rodrigues were around others who smoke in places outside their home, compared to 67.8% in Mauritius and 65.7% in Rodrigues in 2003.

Exposure to media messages

In 2008, 84.9% of students in Mauritius and 81.4% in Rodrigues saw anti-smoking media messages compared to 71.2% in Mauritius and Rodrigues in 2003.

In 2008, 51.4% of students in Mauritius and 38.7% in Rodrigues saw pro-cigarette advertisements in newspapers or magazines compared to 40.7% in Mauritius and 38.4% in Rodrigues in 2003.

School Curriculum

In 2008, 62.9% of students in Mauritius and 52.4% in Rodrigues were taught in class about the dangers of smoking compared to 50.7% in Mauritius and 57.0% in Rodrigues in 2003.

Smoking Cessation

- In 2008, 62.3% of current smokers in Mauritius and 67.9% in Rodrigues wanted to stop smoking compared to 64.2% in Mauritius and 65.6% in Rodrigues in 2003.

1.2 Global School Personnel Survey

The Global School Personnel Survey (GSPS) includes data on prevalence of cigarette and other tobacco use as well as information on attitudes on school policy towards tobacco use and access to teaching materials and training.

The GSPS in Mauritius and Rodrigues was a school-based survey of school personnel from the schools that participated in the 2008 Global Youth Tobacco Survey (GYTS).

The main findings of the survey are:

Prevalence

- 14.5% of school personnel in Mauritius and 17.0% of school personnel in Rodrigues are current cigarette smokers.
- 6.8% of school personnel in Mauritius and 4.5% in Rodrigues smoked on school premises in the past year.

Attitudes

- 59.5% of school personnel in Mauritius and 51.7% in Rodrigues are concerned very much about youth tobacco use.
- 89.1% of school personnel in Mauritius and 85.1% in Rodrigues think that teacher tobacco use influences youth tobacco use.

School Policies

- 95.7% of school personnel in Mauritius and 93.9% in Rodrigues agree that schools should have a policy prohibiting tobacco use among personnel.
- 73.2% of school personnel in Mauritius and 68.6% in Rodrigues report that their schools have a policy prohibiting tobacco use among personnel.
- 94.5% of school personnel in Mauritius and 88.9% in Rodrigues report that their schools enforce policies on tobacco use for students and personnel.

Access to Teaching Materials and Training

- 77.0% of teachers in Mauritius and 83.9% in Rodrigues think that teachers need specific training to help students avoid tobacco use.
- 36.8% of teachers in Mauritius and 32.8% in Rodrigues have access to teaching materials on tobacco use.
- 7.2% of teachers in Mauritius and 12.1% in Rodrigues have ever received training on youth tobacco use prevention.

2. Introduction

The Global Epidemic of Tobacco Use

The world is witnessing an unprecedented rise in the use of tobacco and tobacco-related diseases. According to the World Health Organization, around 1.3 billion people in the world are current smokers and most of them are in developing countries. Every day more than 13,000 people die from tobacco use¹ which amounts to about 5 million deaths annually. It is estimated that with the current smoking trend, tobacco use will be responsible for eight million deaths per year by 2020, 80 percent of which will occur in developing countries.² Tobacco kills 50 % of lifetime smokers and half of these deaths occur among people in their middle age (35-69 years)¹, thus depriving nations of the productive manpower they need for their economic development. There is no other consumer product on the market that kills as many people as tobacco.¹ Furthermore, it is the only consumer product that kills half of its regular users. It is also estimated that of the people alive to-day, 650 million will eventually be killed by tobacco. Tobacco kills more than AIDS, road accidents, suicide, murder, legal drugs and illegal drugs combined.¹ Tobacco contains more than 4,000 chemical substances, many of which are known to be harmful to human health. Sixty of these chemicals are known or suspected carcinogens³ which markedly increase the risk of multiple cancers among smokers, particularly lung cancer. Smokers are also at far greater risk of heart disease, strokes, emphysema and many other diseases. Smoking is responsible for 90% of all lung cancer, 75% of chronic bronchitis and emphysema and 25% of cases of ischaemic heart disease.³

Tobacco Use among adults in Mauritius and Rodrigues

In Mauritius, the prevalence of smoking in the population aged 20 – 74 years was 35.9% among males and 5.1 % among females in 2004, compared to 57.9% among males and 7.0% among females in 1987.⁴ Although there has been a significant decline in tobacco use among males during the past two decades, it is noted that one in three adult males in Mauritius is still a smoker. Mauritius has the highest prevalence of current male smokers in Africa with an adjusted prevalence of 36.2%.

In Rodrigues, the prevalence of smoking in the population aged 20 – 74 years was 39.1% among males and 4.5% among females in 2004, compared to 58.4% among males and 4.9% among females in 1992.⁵

Tobacco use among youth in Mauritius and Rodrigues

Data on tobacco use among young people emanates mainly from the Global Youth Tobacco Survey which was first carried out in 2003. Data relating to the 2003 survey are extensively referred to throughout this report.

Tobacco use and non-communicable diseases in Mauritius

As a risk factor for non-communicable diseases (NCDs), tobacco use is contributing in fuelling a major epidemic of NCDs in Mauritius and Rodrigues. The Non-Communicable Diseases Survey of 2004 shows that 28.8% of adults in Mauritius and 32.8% of adults in Rodrigues have hypertension; 19.3% of adults in Mauritius and 9.4% of adults in Rodrigues have diabetes. Furthermore, 50% of deaths in the Republic of Mauritius are attributed to cardiovascular diseases.^{4,5}

Framework Convention on Tobacco Control (FCTC)

In view of protecting “present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke”, Member countries of the World Health Organization endorsed the Framework Convention on Tobacco Control during the World Health Assembly in 2003. The FCTC became the first international treaty to promote national action and global cooperation to counter the worldwide spread of the tobacco epidemic.

Mauritius and the FCTC

Mauritius signed the FCTC on 17 June 2003 and ratified it on 17 May 2004. The treaty came into force for Mauritius on 27 February 2005. Ratification led to two major policy decisions:

- the preparation of a National Action Plan on Tobacco Control for the period 2008-2012;
- the passing of new FCTC-compliant tobacco regulations in December 2008.

The National Action Plan on Tobacco Control 2008-2012

The Action Plan aims to reduce mortality and morbidity related to tobacco use by pursuing three main objectives, namely, preventing tobacco use, promoting smoking cessation and reducing exposure to environmental tobacco smoke. It is the first attempt of the Ministry of Health and Quality of Life to address the problem of tobacco use in a comprehensive manner. It lays the foundation for sustained action relating to the major areas of tobacco control, for example, information and education, advertising, promotion and sponsorship, packaging and labeling, exposure to tobacco smoke, reduced accessibility to tobacco products to minors and others, illicit trade, smoking cessation and surveillance and research.

Tobacco Regulations

The Public Health (Restrictions on Tobacco Products) Regulations 2008 are in conformity with the WHO Framework Convention on Tobacco Control. They came fully into force as from 1 June 2009.

Briefly, the main provisions of the new tobacco regulations are:

- ban advertising, promotion and sponsorship - to protect against pro-tobacco messages and campaigns and the so-called corporate social responsibility of the tobacco industry.
- ban smoking in most public places - to protect against secondhand smoke.
- reduce accessibility and availability of tobacco products by banning the sale or distribution of tobacco products to and by minors.
- control illicit trade. All packages of cigarettes should display the following words: “Sale allowed in Mauritius only” and indicate country of manufacture.
- control packaging and labeling. Only packages of 20 cigarettes are now allowed for sale and all packages carry pictorial warnings covering an average of 65% of the surface area.

Tobacco cultivation

To date a total of 300 hectares of land is under cultivation of tobacco in Mauritius and 278 full-time or part-time tobacco growers are registered employing a labour force of approximately 1,400 which is predominantly women.

3. Global Youth Tobacco Survey (GYTS)

3.1 Objectives of the GYTS

The GYTS was a school-based, tobacco-specific survey among students aged 13-15 years (Forms II to IV) and the objectives were:

- To document and monitor tobacco use in Mauritius and Rodrigues.

- To understand and assess students' attitudes, knowledge, and behaviours related to tobacco use and environmental tobacco smoke.
- To assess youth exposure to media messages on tobacco and prevention programmes in schools.
- To generate information on the availability and accessibility of tobacco products to young people.
- To generate information on the effectiveness of enforcement measures regarding tobacco use.
- To guide the development of youth tobacco prevention and control programmes.

- To contribute to global tobacco surveillance.

3.2 Methodology

Global Youth Tobacco Survey (GYTS) 2008

To date, the GYTS has been conducted in 154 countries⁶ using a standardized methodology for constructing sample frames, selecting schools and classes, preparing questionnaires, conducting field procedures, and processing data. The common methodology being used by all the countries conducting the GYTS allows the comparison of data at the global level and across regions. It has allowed the GYTS to become an effective tool for global tobacco surveillance among young people. The survey includes questions on tobacco use, knowledge and attitudes regarding tobacco, exposure to secondhand smoke, pro-and anti-tobacco media and advertising exposure, desire for cessation, access to and availability of tobacco products, and anti-tobacco education in schools.

Sample design

A two-stage sample design was used for both Mauritius and Rodrigues to produce the representative sample of students aged 13 to 15 years needed for the GYTS. The first stage consisted of selecting the schools for the GYTS and the second stage consisted of selecting the classes for the survey.

Stage 1: Selection of schools

All public and private schools in Mauritius and Rodrigues having Forms II to Form IV, that is, students aged 13 to 15 years, were eligible to participate in the GYTS. Pre-vocational schools were not considered for the survey because previous experience showed that the literacy rate among students in the target population was low and the self-administered GYTS questionnaire could not be understood and used correctly.

Separate lists of schools with Forms II to Forms IV for Mauritius and Rodrigues were received from the Ministry of Education, Culture and Human Resources together with the enrolment size for each school. The lists of schools and the enrolment data were sent to the Centres for Disease Control and Prevention (CDC), Atlanta, USA, for selection of the schools for the survey. A total of 25 schools in Mauritius and the four secondary schools in Rodrigues were selected for the GYTS. Out of the 25 schools selected in Mauritius, 24 participated in the survey, giving a total school response rate of 96%. In Rodrigues, all the selected participated in the survey and therefore the school response rate was 100%. Schools were selected with probability proportional to school enrolment size, that is, large schools were more likely to be selected than small schools.

Stage 2: Selection of classes

At this stage, a list of Form II to Form IV classes in each selected school was prepared and used to carry out the class selection. Classes were randomly selected from a sequentially numbered list of all classes from each selected schools. CDC provided the random numbers used for the class selection. All enrolled students in the selected classes were eligible to participate in the survey. Student participation was voluntary and anonymous using self-administered data collection procedures. In Mauritius, 1,645 students out of a total of 1,995 sampled students participated in the survey, giving a

response rate of 82.5%. In Rodrigues, a total of 910 students out of 977 sampled students participated in the survey, giving a response rate of 93.1%.

The questionnaire

The GYTS questionnaire was developed by WHO, UNICEF and a group of experts on tobacco addiction. The WHO questionnaire consists of a set of core questions and a set of optional questions. The core set of questions is used by all countries conducting the survey to allow comparison of data between countries and regions in the world. The optional set allows to choose questions that are country-specific as well as to add questions which a country considers important to collect additional information on tobacco use among students. The questionnaire used for the GYTS survey 2008 includes some questions that do not appear in the questionnaire proposed by WHO. The questionnaire was self-administered in classrooms. School, class and student anonymity was maintained throughout the GYTS process. The final questionnaire was translated into Creole and during the survey in Mauritius and Rodrigues, students were free to use either the English or Creole version of the questionnaire. Prior to the field work, some focus group discussions were carried out with students aged 13-15 years to test the accuracy of the translation and student understanding of the questions. The questionnaire was vetted by the Mauritius Institute of Health.

Data collection

In Mauritius, the GYTS was conducted in May 2008. Twelve officers of the Health Information, Education and Communication Unit, Ministry of Health and Quality of Life, were trained as Research Assistants were trained to conduct the survey in the selected schools under the supervision of the Research Coordinator. The Research Assistants worked in teams and were assigned specific schools. They were responsible for all preliminary contacts and arrangements with the schools, conducting the survey in the selected classes and arranging the answer sheets for transmission to the CDC. In Rodrigues, the survey was held from in August 2008. The Acting Departmental Head of the Commission for Education, Training, Arts and Culture, Library Services and Human Resource acted as Liaison Officer and two officers of the same Commission served as Research Assistants.

Students in Mauritius and Rodrigues were surveyed in their respective classrooms under the supervision of the Research Assistants but in the absence of their teachers. Students were required to read the questionnaire and record their answers directly on a separate machine-readable answer sheet. The answer sheets were then collected in batches, one for each class and school. At the end of the field survey in Mauritius and Rodrigues, the answer sheets were sent by courier to the CDC for the analysis of the raw data.

Data Analysis

CDC used the computer programmes Epi-Info and SUDAAN for data analysis and submitted to the Ministry of Health and Quality of Life a set of tables for each question by sex, age and form, a description of the sample and weighing procedures plus school and student response rates. The Research Coordinator and his team used the processed data received from CDC to write the GYTS report.

Limitations of the GYTS

The GYTS is subject to three limitations⁶ First, the GYTS is limited to students and therefore it is not representative of all youths aged 13-15 years. However, the majority of persons in this age group in Mauritius and Rodrigues attend government, private or

technical schools. Second, these data apply only to youths who were in school on the day of the survey and who completed the survey. The GYTS response rate being high (above 80%) suggests that bias attributable to absence or non-response is limited. Finally, data were based on self-report of students, who might under-report or over-report their behaviours or attitudes. The extent of this bias cannot be determined from these data. However, reliability studies in the United States have indicated good test-retest results for similar tobacco-related questions.

3.4 Discussion

Prevalence

Prevalence among ever smokers

The study shows that around one in three students had ever tried cigarette smoking in Mauritius and Rodrigues. However, compared to 2003, a decrease in ever smokers was noted both in Mauritius and Rodrigues, although the decrease was statistically significant in Rodrigues only. In Mauritius, the percentage of ever smokers dropped from 31.3% in 2003 to 28.4% in 2008 and the decrease was among both male and female students. In Rodrigues, the percentage of ever smokers dropped from 54.5% in 2003 to 35.9% in 2008 and the decrease was among both male and female students. The significant drop of ever smokers in Rodrigues is a good sign for the tobacco control programme as it indicates less experimentation with tobacco products and likelihood to start smoking.

Prevalence among current smokers

In Mauritius, prevalence of smoking among current smokers was 13.7% in 2008 compared to 14.8% in 2003. There was therefore neither an appreciable decrease nor an increase in prevalence during the period between the two GYTS surveys conducted in 2003 and 2008 respectively. Efforts should be renewed to curb the use of tobacco and reduce prevalence in the years to come. With the development of the National Action Plan on Tobacco Control 2008-2012, a more comprehensive approach to the tobacco problem is expected and better results could be achieved in future.

In Rodrigues, prevalence of smoking among current smokers decreased from 19.7% in 2003 to 11.9% in 2008. The decrease was noted among both males (from 26.6% in 2003 to 16.3% in 2008) and females (from 13.6% in 2003 to 8.4% in 2008).

Susceptibility to smoking

Susceptibility to smoking is a measure of how firm a never smoking young person is regarding his or her intention to remain a nonsmoker. It predicts the risk of future smoking experimentation.⁷ In Mauritius 11.2% of students and in Rodrigues 9.0% of students who had never smoked considered themselves susceptible to start smoking in the coming year. In other words, in addition to the 28.4% of students in Mauritius and 35.9% of students in Rodrigues who ever tried smoking in or before 2008, there is the risk that around another 10% of non-smoking students might be experimenting with tobacco during the current year (2009).

Prevalence among women

The study shows that in 2008 less female than male students were current smokers both in Mauritius and Rodrigues. In Mauritius, 7.7% of female students were current smokers compared to 20.3% among male students. In Rodrigues, 8.4% of female students were current smokers compared to 16.3% among male students. The Non-Communicable Diseases Survey of 2004 shows that 5.1% of females in Mauritius and 4.5% of females in Rodrigues, aged 20-74 years, were current smokers. These findings suggest that cigarette smoking is higher among girls than women aged 20 years and above. This might be due to a change in cultural traditions and social influences, making smoking among girls more acceptable. Young girls might also be more vulnerable to tobacco advertising on the internet or foreign media associating smoking with independence, stylishness, weight control, sophistication and power.

Prevalence-general comments

The Global Tobacco Surveillance Report of the Centres for Disease Control and Prevention (CDC) and the World Health Organization (WHO) shows that on the average, 12 % of boys presently smoke cigarette in the world. In 2008, prevalence of smoking among male boys was 20.3% in Mauritius and 16.3% in Rodrigues. In other words, in 2008 the prevalence of smoking among boys in Mauritius and Rodrigues was higher than the global average. In fact, Mauritius is showing the same trend as in Europe where on the average 21 % boys smoke whereas the trend in Rodrigues is similar to that of Africa where 14% of boys smoke.

Age of Initiation

In both Mauritius and Rodrigues, the most common age for students to try their first cigarette was 12-13 years, with 44.7% of students in Mauritius and 29.8 % in Rodrigues reporting initiation at this age. The percentage of students who tried to smoke cigarettes at this age in Mauritius increased during the period between the two GYTS surveys, that is, from 34.6% in 2003 to 44.7% in 2008. In Rodrigues, it remained almost unchanged, that is, 29.0% in 2003 to 29.8 % in 2008. Furthermore, more girls than boys tried a cigarette at this age, with 50.2 % of girls and 41.5 % of boys in Mauritius and 35.3% of girls and 25.2 % of boys in Rodrigues reporting doing so in 2008.

In 2008, 13.4% of students in Mauritius and 26.6% in Rodrigues tried a cigarette before the age of 10 years. Again, in 2008, 16.9% of students in Mauritius and 21.1% of students in Rodrigues tried smoking at the age of 10-11 years. Initiation to cigarettes in Rodrigues was therefore higher in the lower age groups (less than 10 years and 11-12 years) than in Mauritius. Furthermore, it was noted that while initiation to cigarette in Mauritius started gradually from the lower age groups to peak at the age of 12-13 years, in Rodrigues initiation is more or less uniformly distributed in the different age groups.

Whatever the differences regarding the age of initiation to cigarettes in Mauritius and Rodrigues, these findings indicate that among many students, both males and females, initiation starts early and even below the age of 10 years. Likewise, the existing anti-tobacco prevention programmes at primary level should start earlier and be strengthened in order to shape the attitudes and behaviours of children against smoking from a very early age.

Reasons to start smoking

In both Mauritius and Rodrigues, the main reason to start smoking was the desire to experiment with cigarettes, with 56.7% of students in Mauritius and 73.9% in Rodrigues reporting so in 2008. Pressure from friends was the second main reason to start smoking cigarettes, with 25.7% of students in Mauritius and 9.3% in Rodrigues reporting so in 2008. Students reported very negligible influence of the media on their desire to start smoking. The absence of exposure to tobacco advertising and promotion in the local media as a result of the successful enforcement of the anti-tobacco regulations since 1999 could probably be one of the contributing factors. However, ban on advertising and promotion in the local media did not deter youth exposure to advertising and promotion in foreign media channels and the internet, as pointed out later in the report where the subject of advertising and promotion is dealt with in details.

Knowledge and Attitudes

The study shows that both in Mauritius and Rodrigues a high percentage of students who had never smoked (never smokers) was aware that tobacco use was harmful to health. In 2008, 88.9 % of never smokers in Mauritius and 90.7 % of never smokers in Rodrigues

definitely thought that smoking was harmful to health. Furthermore, both in Mauritius and Rodrigues current smokers were less aware than never smokers of the harmful effects of smoking. In 2008, 64.3 % of current smokers in Mauritius and 76.9 % of current smokers in Rodrigues definitely thought that smoking was harmful to health. In Mauritius, awareness on the harmful effects of smoking among both never and current smokers had improved. In 2003, awareness was 78.8% among never smokers and 44.5% among current smokers. In 2008, awareness was 88.9% among never smokers and 64.3% among current smokers. In Rodrigues, awareness remained almost unchanged, but was higher than in Mauritius; in 2008, it was 90.7% among never smokers and 76.9% among current smokers.

It is paradoxical that current smokers who are at risk of developing tobacco-related problems later in life are less informed than never smokers on the harms of tobacco use. The acquisition of knowledge is an essential element in the process of behaviour change. Health and educational authorities should ensure that students, and more so the high-risks ones, are reached through educational activities. Sensitization among never smokers should also continue in order to reach even higher level of awareness among them. Article 12 of the WHO Framework Convention on Tobacco Control calls for each Party to “promote and strengthen public awareness of tobacco control issues” and promote “public awareness about the health risks of tobacco consumption”. The MPOWER package of the World Health Organization calls for “targeting education to particular groups with higher rates of tobacco use and /or lower levels of knowledge about tobacco use.”

As far as attitudes towards smoking are concerned, in 2008, students in Mauritius and Rodrigues continued to have a low image of boys and girls and other people who smoke, as indicated below:

- only 12.2% of students in Mauritius and 11.6% in Rodrigues thought that boys who smoked were more attractive;
- only 6.5% of students in Mauritius and 9.5% in Rodrigues thought that girls who smoked were more attractive;
- only 7.6% of students in Mauritius and 4.1% in Rodrigues thought that a male who smoked was manly;
- only 6.7% of students in Mauritius and 8.8% in Rodrigues thought that a woman who smoked was more sophisticated.

However, a higher percentage of students believed that smoking made someone have more friends or more comfortable in parties, as indicated below:

- 36.3% of students in Mauritius and 44.9% in Rodrigues thought that boys who smoked had more friends;
- 13.6% of students in Mauritius and 24.1% in Rodrigues thought that girls who smoked had more friends;

- 22.8% of students in Mauritius and 38.1% in Rodrigues thought that a person who smoked was more comfortable in parties.

Health education programmes should continue to reinforce the low image of the smoker among young people. Perceptions and attitudes, just like knowledge, are well known determinants of behaviour. The use of tobacco increases as the perception of harmfulness decreases.⁸ According to the Health Belief Model, a person's decision to adopt or not a behaviour is determined by his or her perceived risks, consequences, benefits and barriers. Similarly, the Centres for Disease Control and Prevention says that "building negative attitudes towards tobacco use and increased agreement with statements about the risks of tobacco use have been related to decreased tobacco use rates among youth."⁷ These are reasons for educational programmes to take a closer look at the perceptions and attitudes that prevail among students and act upon them to bring about the desired behavioural modifications. For teachers and trainers to be effective in facilitating the process of behavioural change among students, training should be conducted on Behavioural Change Communication (BCC), including the different theories of behaviour change. In so doing, the influence of all factors involved in the process of behaviour change could be properly captured by educators and social workers and activities could be tuned to achieve desired behavioural objectives. It will also allow to better understand and effectively fight the strategy of the tobacco industry of promoting tobacco use by associating smoking with adulthood, beauty, success and pleasure and modeling the attitudes and behaviour of people by using actors, musicians, singers and celebrities in sports and elsewhere. The MPOWER package of the World Health Organization states that "by counteracting the glamorous image of smoking portrayed by tobacco industry marketing and by reversing the erroneous perception that tobacco use is a low-risk habit, societal pressures will cause many individuals to choose not to use tobacco."

Access and availability

The study indicates that the factors increasing the accessibility and availability of tobacco products to young people as identified in the GYTS survey in 2003 still prevailed in 2008. These are:

- the sale of cigarettes to minors

In 2008, 60.0 % of current smokers in Mauritius and 84.7% in Rodrigues purchased their cigarettes in shops and were not refused because of their age.

- the sale of loose cigarettes or packages of 10 cigarettes to minors

In 2008, 68.7% of current smokers in Mauritius and 78.5 % of current smokers in Rodrigues bought loose cigarettes compared to 60.5 % in Mauritius and 72.8 % in Rodrigues in 2003. Furthermore, in 2008, 23.3 % of current smokers in Mauritius and 18.9 % of current smokers in Rodrigues bought packages of 10 cigarettes.

- tobacco sale outlets near their residence

In 2008, 66.8 % of current smokers in Mauritius and 74.6 % of current smokers in Rodrigues knew places that sold single or loose cigarettes in the area they lived.

- the offer of free cigarettes by tobacco representatives.

In 2008, 8.4 % of students in Mauritius and 7.4 % of students in Rodrigues were offered free cigarettes by a tobacco company representative.

Borrowing cigarettes was also common among current smokers. In Mauritius, 21.1% of current smokers and in Rodrigues 14.6% of current smokers borrowed their cigarettes.

The practice was more common among females than males in Mauritius, with 28.8% of female current smokers and 18.6% of male current smokers borrowing their cigarettes. In Rodrigues, no comparison between male and female current smokers borrowing their cigarettes was possible; the data generated were unreliable as the number of respondents were less than 35.

In view of reducing accessibility and availability of tobacco products to minors, the Public Health (Restrictions on Tobacco Products) Regulations of 1999 prohibited the sale of tobacco products to minors. In 2008, new anti-tobacco regulations came into force and, in conformity with article 16 of the Framework Convention on Tobacco Control (FCTC) of the World Health Organization, provide more measures to reduce affordability of tobacco products to young people as indicated below:

- ban the sale of tobacco products to minors;
- ban the sale of individual cigarettes or packages of 10 cigarettes;
- ban the display of tobacco products;
- ban the sale of cigarettes by means of tobacco vending machines; and
- affix an indicator at the point of sale about the prohibition of sale of cigarettes to minors.

The central strategy in reducing accessibility and availability of cigarettes to young people now lies in putting in place a proper enforcement mechanism of these regulations. Effective enforcement will definitely contribute to reducing access to tobacco products to young people and consumption among them. However, it is to be noted that despite the 1999 legislation banning the sale of cigarettes to minors, the majority of young people continued to buy cigarettes in shops without any hindrance, indicating that the legislation was not effectively enforced by authorities and implemented by business owners.

Regarding the free distribution of cigarettes to young people, it is likely that an underground distribution network of free cigarettes by the tobacco industry, unknown to local authorities, exists in Mauritius and Rodrigues to facilitate initiation and subsequent addiction. It is well known that in many countries free distribution of cigarettes by tobacco companies exists but is not visible. Free distribution is often carried out unnoticed by people who are paid by the tobacco industry in such places as nightclubs, university compounds and social events. Authorities should adopt a more vigilant approach with regards to this problem and investigate rumours and cases reported by individuals, non-governmental or other organizations.

Environmental Tobacco Smoke

The study shows that young people in Mauritius and Rodrigues are exposed to environmental tobacco smoke both at home and in public places. In 2008, 42.7% of students in Mauritius and 36.0% of students in Rodrigues lived in homes where others smoke in their presence. Again in 2008, 73.6% of students in Mauritius and 57.2% of students in Rodrigues were around others who smoke in public places.

However, less young people were exposed to tobacco smoke in homes in Mauritius and Rodrigues and in public places in Rodrigues. In Mauritius, youth exposure to second hand smoke in public places has increased in 2008.

There is clear scientific evidence that exposure to second hand smoke is injurious to health, causing serious and fatal diseases in adults and children.⁹ According to the WHO there is no safe level of exposure to tobacco smoke and the elimination of smoking from

indoor environments is the only science-based measure that adequately protects a population's health.

Smoke-free environments, on the other hand, reduce the social acceptability of smoking and thus reduce smoking initiation among young people. Ban in nightclubs and bars and where adults usually go and where young people aspire to go one day reduces the status of smoking as a symbol of adulthood, especially when the tobacco industry is promoting smoking as an adult choice⁹ According to the MPOWER package of the WHO, smoke-free public places and workplaces in high-income countries have shown to reduce tobacco consumption by 3-4%.

In view of the accumulated evidence against second hand smoke, Article 8 of the Framework Convention on Tobacco Control (FCTC) calls to “adopt measures providing for protection from exposure to tobacco smoke in indoor places, public transport, indoor public places and, as appropriate, other public places” The tobacco industry strongly opposes the passage and implementation of smoke-free laws because it considers such laws to be the “most dangerous development to the viability of the tobacco industry that has ever occurred.”⁹

As a Party to the FCTC, in 2008 Mauritius passed new regulations to control second hand smoke. These regulations ban smoking in most public places, including public transport, educational institutions, sport premises, recreational places, cafes, bars, restaurants and nightclubs as well as while driving or travelling in a private vehicle carrying passengers. Public authorities should now ensure enforcement of the regulations to protect young people in Mauritius and Rodrigues from tobacco smoke. The Ministry of Health and Quality of Life, as the initiator of the FCTC-compliant tobacco legislation, should show leadership in the area. A multi-sectoral committee comprising of all stakeholders should be set up and an enforcement plan be prepared to ensure compliance to the smoke-free provisions of the regulations. Furthermore, implementation and enforcement of smoke-free provisions in the tobacco regulations should be closely monitored so that weaknesses in the existing legislation and difficulties in their implementation could be identified and timely corrective measures are taken to ensure maximum protection from environmental tobacco smoke.

Public education campaigns should also be strengthened to inform the population and especially smokers on the provisions of the law regarding the ban on smoking in public places. No person should use ignorance of the law as an excuse to smoking in those public places where smoking is banned.

Smoke-free homes are also associated with reduced tobacco use among teenagers.⁹ As no coercive measures could be taken against family members smoking in the presence of others in homes, persuasion through information and education remains the cornerstone for attitudinal and behavioural changes in the home environment. Sensitization activities targeting family members and using face-to-face and media communication channels should be carried out.

Media and Advertising

The study shows that the media remains a good source of both anti- and pro-smoking information for students. Both in Mauritius and Rodrigues, students were exposed to anti-smoking messages from media channels like the TV, radio, newspapers and magazines and posters. Exposure was high with more than 80% of students in Mauritius and Rodrigues having been exposed to anti-smoking messages from different media sources.

Compared to 2003, exposure to anti-smoking messages from media sources had increased among students except in Rodrigues where the percentage of students exposed to messages on the radio decreased slightly. In Mauritius, exposure to anti-smoking messages were highest from the TV and radio (70.4% and 69.9% respectively) followed by messages from newspapers/magazines and posters (64.1% and 61.5% respectively). In Rodrigues, exposure to anti-smoking messages was highest from newspapers/magazines and the TV (71.3% and 61.9% respectively) followed by messages from the radio and posters (59.7% and 57.2% respectively).

Regarding pro-smoking messages, 97.6% of students in Mauritius and 92.7% of students in Rodrigues reported having seen actors smoking when watching TV. In Mauritius, one in two students surveyed reported having seen or heard cigarette brands on the TV or radio. In Rodrigues, one in three students saw cigarettes brand on the TV and one in two heard cigarettes brands on the radio. One in two students in Mauritius and more than one in three students in Rodrigues said they had seen advertisements or promotion on smoking in foreign magazines and newspapers or the internet.

The study highlights the significant role of the media in providing both good and bad information on tobacco to young people. Although a negligible percentage of students in Mauritius and Rodrigues (2.4% and 3.2% respectively) reported the influence of the media to start smoking, we have to be cautious not to underestimate the power of the media in influencing the behaviour of young people. It is well known that businesses use media advertising to influence the consumers' choice of products. The tobacco industry is no exception to the rule and uses direct and indirect advertising to associate tobacco use with independence, adulthood, athletic prowess, sexual attractiveness and success, adventure and self-fulfillment to prospective users. Not only the appealing pro-smoking messages of the tobacco industry undermine the credibility of health education campaigns and encourage children to take up smoking but are at the same time deceptive because, while associating smoking with celebrities and attributes that young people like, it makes no mention of the dangers of smoking. According to the WHO "tobacco companies intentionally use misleading messages that are critical in shaping children's attitudes towards tobacco use. Studies have shown tobacco promotional activities are causally related to the onset of smoking in adolescents and exposure to cigarette advertising is predictive of smoking among adolescents."¹⁰ Children are three times more affected by advertising than are adults. Young people are able to recall virtually no anti-smoking messages on television or in the movies, yet they are able to recall specific movies that portray smoking and are able to identify actors and actresses who smoke in their entertainment roles.⁷

In view of the above, Article 13 of the Framework Convention on Tobacco Control (FCTC) of the World Health Organization calls for countries to undertake a comprehensive ban on advertising, promotion and sponsorship to reduce the consumption of tobacco products. Furthermore, the MPOWER of the World Health Organization states that "in high-income countries, a complete ban that covers all media and all uses of brand names and logos has been documented to decrease tobacco consumption by about 7%."² In line with the recommendations of the World Health Organization, Mauritius needs a two-prong strategy which, on the one hand, will decrease the pro-tobacco media messages and, on the other hand, increase the anti-tobacco media messages. The Public Health (Restrictions of Tobacco Products) Regulations promulgated in 2008 renew the

ban on advertising, promotion and sponsorship which is in force since 1999. These regulations have so far been effectively enforced and contributed to significantly reduce exposure to pro-tobacco messages on local TV and radio channels, newspapers and magazines and other media channels. However, the study shows that pro-tobacco messages are still reaching students through foreign TV and radio channels, newspapers and magazines and the internet. The tobacco industry will definitely take advantage of youth-friendly technology to promote tobacco use among young people and counter local efforts to reduce pro-tobacco media messages through foreign media channels. The most appropriate strategy to effectively counter the attempts of the tobacco industry is to work towards the implementation of Article 13 of the Framework Convention on Tobacco Control which calls for the establishment of a ban on cross-border advertising. However, this remains a long-term global strategy. Authorities should also prevent the tobacco industry to employ subliminal advertising techniques such as the strategic placement of cigarette brands in shops and supermarkets. The Consumer Protection (Price and Supplies Control) Act of 1998 should also be modified to ban the display of tobacco products at the points of sale and at the same time to avoid conflict with the Public Health (Restrictions of Tobacco Products) Regulations of 2008. Furthermore, a multi-media strategy should be adopted for the dissemination of anti-tobacco messages, although such campaigns are increasingly prohibitive due to the high cost involved, especially when they are repeated over time for desired impact.

Anti-smoking School Programme

In Mauritius the percentage of students who were taught in schools about the dangers of smoking increased from 50.7% in 2003 to 62.9% in 2008. Similarly, the percentage of students who discussed in class why people of their age smoke increased from 27.4% in 2003 to 36.6% in 2008. There is no doubt that the combined action of the Ministry of Education and Human Resources and the Ministry of Health and Quality of Life has given the positive results. The school textbooks already have some lessons on tobacco use and its harmful effects and teachers are trained to conduct these lessons in classes. The Ministry of Health and Quality of Life has an increasing pool of officers who collaborate with schools to conduct educational programmes on the tobacco problem. In addition, the Ministry of Health and Quality of Life conducts awareness sessions on the risk factors of non-communicable diseases, including tobacco use, in the context of the School Health Programme for secondary schools. This is a nation-wide programme which reaches the remotest schools with screening and health education activities.

Furthermore, a number of joint high-profile extra-curricular activities were held by both ministries concerned. For example, the activities marking the World No-Tobacco Day annually involved the schools at a national level. Drawing competitions were held and the entries of winners were printed as posters and stickers and distributed widely in schools and youth outlets. Television and radio spots targeting young people were produced and broadcast during peak viewing/listening times.

In Rodrigues, a decrease was noted in the percentage of students reached through anti-tobacco education. The percentage of students who were taught in schools about the dangers of smoking decreased from 57.0 % in 2003 to 52.4 % in 2008. Similarly, the percentage of students who discussed in class why people of their age smoke decreased from 42.1 % in 2003 to 24.9 % in 2008. It was not within the scope of the survey to probe into the factors responsible for this lower exposure to school-based anti-tobacco

education in Rodrigues. Rapid assessment procedures such as Focus Group Discussions (FGD) and Individual In-depth Interviews (III) with teachers and school management could be conducted to understand the underlying problem and take corrective measures.

In Mauritius and Rodrigues, future action for a more effective anti-tobacco programme in schools should focus on a school curriculum which is more responsive to the issue of tobacco use. Authorities should look into the possibility to increase the number of anti-tobacco lessons in the different forms and at primary level so that students are repeatedly exposed to the tobacco issue during their school life. At the same time, regular refresher training for teachers should be carried out, appropriate teaching tools should be developed, regular newsletters on the tobacco problem could be issued and more extra-curricular anti-tobacco activities for young people could be conducted.

School programmes on tobacco tend to focus on the harmful health effects of smoking, such as cancer, heart disease and stroke.²⁰ However, these are afflictions that usually do not affect the smokers until middle- or even old age. This information may have little influence on the smoking behaviour of young people, especially in the pre-teen or early teen years. Consequently, it is now thought more useful to teach young people about the tobacco industry's manipulation of them, for example, through the awareness and analysis of tobacco advertising and promotion. In addition, social programmes may tackle peer pressure issues, such as how to say no when a friend offers a cigarette.

To date both in Mauritius and Rodrigues the school remains the most convenient venue for sensitizing young people of 13-15 years on smoking as most of them attend schools during this period of their life. The integration of health education, including anti-smoking education, in the school curriculum could prove to be highly cost-effective in the long term, the more so with the growing cost of mass media campaigns using the TV, radio and printed materials and the increasing difficulty to raise funds to mount sustained and regular campaigns to outreach young people or the public with media messages.

Tobacco Dependence and Cessation

In 2008, 12.1% of current smokers in Mauritius reported always having or feeling like having a cigarette first thing in the morning. This indicates the nicotine addiction of the smoker and his/her dependency on tobacco. Dependency rate was 11.0% in 2003 and has therefore decreased only by 1.1% between 2003 and 2008.

In Rodrigues, 1.8% of current smokers reported having or feeling like having a cigarette first thing in the morning in 2008 compared to 5.9% in 2003. Thus a decrease of 4.1% was noted in the rate of dependency on tobacco among students between 2003 and 2008.

Knowing the devastating effect of tobacco use on the health of smokers, dependency on tobacco should be viewed with concern. Strategies should be designed to assist young people in their attempts to quit smoking, the more so when the study shows that the majority of young current smokers want to do so. In fact, in 2008, 62.3% of current smokers in Mauritius wanted to stop smoking and 58.5% tried to do so but could not. In Rodrigues, 67.9 % of current smokers wanted to quit smoking in 2008 and 46.0% tried to do so but could not. This is highly encouraging for the tobacco control programme because if these young current smokers succeed in their attempts to quit smoking, the result will be both immediate and long-term improvement of their health. It also highlights the importance of targeting young dependent current smokers with the right smoking cessation programmes.

Studies of tobacco use in industrialized countries show that most of those destined to become daily smokers later in life are already smoking by the age of 18 years and that people who try smoking as teenagers are 16 times more likely to become adult smokers.¹¹ The WHO Framework Convention on Tobacco Control states that countries should “design and implement effective programmes aimed at promoting the cessation of tobacco use, in such locations as educational institutions, health care facilities, workplaces and sporting environments”. The MPOWER package of the World Health Organization recalls that “cessation interventions are important to help individual tobacco users quit in order to protect their health and lives.”

In view of the above, the initiative of the Ministry of Health and Quality of Life to set up smoking cessation clinics in the public health sector based on behavioural and drug therapies is highly relevant. However, it will be befitting that the services of health professionals and others trained in counseling for smoking cessation be utilized to outreach young smokers as well in places such as schools and youth centres. This will definitely assist in creating the supportive environment for smoking cessation among young people. The counseling approach could be combined with other existing behavioural change strategies such as the use of self-help materials, telephone quitline and the teaching of life skills in order to have the desired impact on the target population. The Public Health (Restrictions of Tobacco Products) Regulations of 2008 make it mandatory for cigarette packages to carry graphic warnings as from 1 June 2009. Graphic warnings are effective in informing smokers on the hazards of smoking, encouraging them to quit and discouraging non-smokers from starting smoking. In Canada, a survey of pictorial warnings showed that 58 % of smokers said the pictures had made them think more about the health effects of smoking and 44 % said the warnings increased their motivation to quit. Likewise, authorities in Mauritius are anticipating that this provision in the tobacco legislation will help to create greater awareness among smokers, including young ones, on the necessity to stop smoking.

However, the cessation programme should not be pursued in isolation; it should be combined with other strategies that also contribute to smoking cessation, such as increase in the price of tobacco products, ban on advertising and promotion, restricting places where people can smoke and educating on the harms of tobacco use. The adoption of a comprehensive approach to the tobacco problem is of paramount importance to achieve the desired objectives of the tobacco control programme as enunciated in the National Action Plan on Tobacco Control 2008-2012.

4. Global School Personnel Survey (GSPS)

4.1 Objectives

The objectives of the Global School Personnel Survey were:

- To document and monitor tobacco use among the school personnel in Mauritius and Rodrigues.
- To assess the knowledge and attitudes of school personnel related to tobacco-related issues.
- To assess the effectiveness of tobacco control policies in schools.
- To assess the availability of training and teaching materials for implementing tobacco prevention and control interventions.

4.2 Methodology

The Global School Personnel Survey (GSPS) was designed to collect information on tobacco use, knowledge and attitudes of school personnel towards tobacco, policies on tobacco control in schools, and training and materials available for implementing tobacco-related interventions.

Sample

The GSPS is a survey of all school personnel in schools selected to participate in the Global Youth Tobacco Survey (GYTS). All personnel working in the selected schools were eligible to participate in the GSPS.

In Mauritius, the school response rate was 96.0% with 24 out of the 25 schools sampled participating in the survey. Out of the 1,562 school personnel sampled, 966 participated in the survey, giving an overall response rate of 59.3%. In Rodrigues, the school response rate was 100.0% with all the 4 sampled schools participating in the survey. A total of 170 school personnel out of the 232 sampled participated in the survey, giving an overall response rate of 73.3%.

Data collection

The GSPS used self-administered, anonymous data collection procedures. The names of the schools or personnel were not collected and participation was voluntary. The questionnaire was designed with no skip patterns to allow respondents to answer all questions. The GYTS questionnaire included a total of 42 questions covering five

categories: tobacco use, knowledge and attitudes regarding tobacco, school policy, school curriculum, and demographics. Surveys were completed during or after school hours .

Measures

The report presents measures of

- tobacco use prevalence (current tobacco use, current use of tobacco products other than cigarettes, use of tobacco on school property);
- attitudes among school personnel regarding several tobacco issues (percentage who are very concerned about youth tobacco use, percentage who think teacher tobacco use influences youth tobacco use, percentage who think tobacco product advertising should be banned, percentage who think sponsorship by tobacco industry should not be allowed, percentage who think price of tobacco should be increased).
- support for and existence of school policies prohibiting tobacco use (percentage who strongly agreed schools should have a policy prohibiting tobacco use among students and school personnel, percentage who reported that their school enforces its tobacco policy); and
- components of tobacco-related curriculum (percentage who had access to teaching and learning materials about tobacco, percentage who had received training to prevent youth tobacco use, percentage who had non-classroom programmes to teach about tobacco prevention among students).

Data analysis

The GSPS data were weighted to adjust for sample selection (school) and non-response (school and individual levels). The computer programme SUDAAN was used to compute weighted prevalence estimates and standard errors; 95% confidence intervals were calculated using the standard errors.

Limitations

The GSPS is subject to three limitations.⁶ First, the GSPS sample design uses schools selected for the GYTS. Thus, the GSPS is not an independent sample of schools and depends on the success of the GYTS. Second, the GSPS school personnel participation is voluntary. Third, findings are based on self-reports from school personnel who may under-report or over-report their behaviour and their knowledge of school policies. GSPS does not include independent validation of school policies and enforcement of school tobacco control policies.

4.4 Discussion

Prevalence

Data from Global School Personnel Survey indicate that 14.5% of school personnel in Mauritius and 17.0% in Rodrigues were current cigarette smokers in 2008. This is below the average for smoking in the adult population aged 20 years and above which, according to the Non-Communicable Diseases Survey 2004, was 20.5% in Mauritius and 32.4% in Rodrigues. Furthermore, the prevalence of cigarette smoking among school personnel in Mauritius and Rodrigues was more or less the same as the average in the different regions of the world. Data from the different regions indicate that current cigarette smoking among school personnel was between 15% to 19% in 2006.

Smoking among school personnel should always be viewed with concern and not complacency. School personnel can play an important role in tobacco control because of their status as role models in their communities and their frequent contact with children. This potential can be limited if school personnel use tobacco, especially in the presence of students in school premises which is the case for 6.8% of school personnel in Mauritius and 4.5% in Rodrigues. Smoking among school personnel also undermines the educational messages and other prevention efforts to reduce adolescents smoking prevalence.¹² In view of the above, strategies are required to motivate school personnel to quit smoking or at least not to smoke in the presence of youth, in or out of school.

Knowledge and attitudes

The study shows high level of awareness among school personnel on the addictiveness and health effects of tobacco use. 85.0% of school personnel in Mauritius and 91.7% of school personnel in Rodrigues said that tobacco use is addictive. Moreover, 95.5% of school personnel in Mauritius said that tobacco use causes lung cancer and 85.8% said that it causes heart disease. In Rodrigues, 99.4% of school personnel said that tobacco use causes lung cancer and 91.9% said that it causes heart disease.

As far as attitudes were concerned, the study indicates that school personnel were in total disagreement with the tactics of the tobacco industry for encouraging consumption of tobacco products among youth and the population in general. In Mauritius, 85.7% of school personnel and in Rodrigues, 82.3% of school personnel thought that advertising of tobacco products should be completely banned. In addition, 75.1% of school personnel in Mauritius and 68.1% in Rodrigues thought that the tobacco industry should not be allowed to sponsor school or extra-curricular activities, such as sporting events. More than three out of four school personnel are even in favour of increasing the price of tobacco products. Such attitudes also imply strong support to the tobacco regulations which ban advertising, promotion and sponsorship and smoking in public places in Mauritius and Rodrigues.

More than one out of two school personnel in Mauritius and Rodrigues showed an attitude of great concern about tobacco use among young people. The vast majority among them are also conscious of the fact that teacher tobacco use influences youth tobacco use. Future empowerment programme for teachers should take advantage of these elements to generate more support for anti-tobacco education in schools.

School policies on tobacco use

The enforcement of school policy restricting smoking is associated with a lower level of tobacco consumption and prevalence among pupils as well as with the reduction of exposure of students and school personnel to second hand smoke.¹³⁻¹⁷ Furthermore, the visibility of adult smoking both in indoor and outdoor areas increases the likelihood of regular smoking among students¹⁸ and decreases the support for smoke-free environment among students that smoke.¹⁹ Hence, the necessity to enforce the tobacco legislation which bans smoking in indoor and outdoor premises of educational institutions.

In Mauritius and Rodrigues, school policy regarding tobacco use is governed by the Public Health (Restrictions of Tobacco Products) Regulations of 2008 which ban smoking in educational institutions at pre-primary, secondary and tertiary levels. The previous anti-tobacco regulations dating back to 1999 also banned smoking in educational institutions. The study shows the level of compliance to the no-smoking regulations among school personnel was very high with only 6.8% in Mauritius and 4.5% in Rodrigues reporting having ever used tobacco in school premises during the year preceding the survey. It is the responsibility of the school management to enforce the tobacco regulations and ensure absolute compliance among the school personnel and students alike.

The study also shows high level of support among school personnel for tobacco-free policies. In Mauritius, 95.7% of school personnel and in Rodrigues, 93.9% of school personnel supported prohibition of tobacco use among school personnel in school premises. In addition, 98.4% of school personnel in Mauritius and 95.6% in Rodrigues supported prohibition of tobacco use among students in school premises.

Access to training and teaching materials

Access to appropriate training and educational materials is an important element of an effective curriculum to prevent and reduce tobacco use among students. However, a low percentage of teachers (7.2% in Mauritius and 12.1% in Rodrigues) reported having ever received training to prevent youth tobacco use. In addition, only around one in three teachers in Mauritius and Rodrigues reported having access to teaching materials to support tobacco reduction and prevention curriculum.

The Ministry of Health and Quality of Life, in collaboration with the Ministry of Education, Culture and Human Resources, has embarked on a training programme for secondary school teachers. This year a total of around 150 teachers has been trained in the context of the consolidation of the tobacco control programme in schools. However,

the training programme should be sustained and reach more teachers. Authorities should also advocate with the Mauritius Institute of Education (MIE) to consolidate the health education component of the training and teaching programme of primary and secondary school teachers.

A strategy to reach students through extra-curricular activities should also be pursued as such activities provide the opportunity to students and organizations to partner and create the necessary synergy in the fight against tobacco use. Unfortunately, extra-curricular activities are not too common among schools; only 55.3% of school personnel in Mauritius and 45.8% in Rodrigues reported non-classroom programmes or activities to teach tobacco use prevention to students.

The great majority of school personnel – 81.1% in Mauritius and 86.0% in Rodrigues-reported advising students to stop using tobacco. In the absence of adequate training, most probably such advice was limited in substance but shows their willingness to assist in the effort to prevent and reduce tobacco use among students. Training and adequate teaching materials will improve their ability to convey effective anti-tobacco information to students.

Conclusion

Tobacco use starts in the adolescent years, when school personnel act as important role models. To plan effective interventions, it is essential to have information on the extent and the type of tobacco use among school personnel, their attitudes towards tobacco control, and the existence of school health policies about tobacco. The GSPS provides this information and authorities could use these data to plan, implement and revise programmes to reduce tobacco use among school personnel, improve tobacco control information dissemination to students, and provide school personnel with the resources they need to complement a comprehensive tobacco control programme.

5. Recommendations

General

1. Disseminate the findings of the survey among stakeholders in view of creating a supportive environment for tobacco control policies and programmes.
2. Monitor closely the activity of the tobacco industry to ensure that no free distribution of cigarettes is being carried out among young people.
3. Involve all sectors concerned in developing and implementing anti-tobacco strategies targeting young people.
4. Continually reassess tobacco control policies and strategies targeting young people in the light of results obtained and weaknesses observed.
5. Collaborate with World Health Organization in the development of guidelines to control cross-border advertising and promotion which the tobacco industry is using to reach countries where advertising and promotion are prohibited by law.
6. Raise taxes on tobacco products to increase price and reduce consumption. (It is estimated that for each 10% increase in retail price, consumption is reduced by about 4% in high-income countries and by about 8% in low- and middle-income countries.)

Capacity-building

7. Train people engaged in anti-smoking education in Behavioural Change Communication (BCC) in order to better understand the process and determinants of behaviour change and contribute more effectively in achieving the desired behavioural objectives.
8. Provide teachers and trainers regular training to make them more comfortable with tobacco-related issues and encourage them to serve as role models to young people.

Enforcement of Tobacco Legislation

9. Ensure that the tobacco regulations of 2008 are strictly enforced in and outside of schools to protect young people from second hand smoke, advertising and promotion and the use of tobacco products.
10. Ensure that the ban on sponsorship, as required by the tobacco regulations of 2008, is strictly enforced to prevent the tobacco industry from creating for itself a positive image in the public and especially among young people by sponsoring students for higher education under cover of corporate social responsibility.

School Programme

11. Liaise with the Ministry of Education to consolidate the anti-smoking lessons in the primary and secondary school curriculum.
12. Develop an anti-smoking module for implementation in secondary schools as an extra-curriculum activity to supplement the existing anti-smoking programme in the school curriculum.
13. Teach students social skills so that they can avoid pressure to start smoking.
14. Conduct regular inter-school activities such as poster and essay competitions to create and sustain the interest of young people on issues relating to tobacco.
15. Conduct educational programmes for parents through Parents Teachers Associations and other community organizations to sensitize them on the harmful effects of smoking and secondhand smoke and encourage them to serve as role models to their children.

Educational and media materials and events

16. Produce appropriate educational materials to meet the needs of students, teachers, and parents.
17. Develop appropriate educational materials on smoking cessation and make them easily available to young people in schools, youth centres and other places where young people meet.
18. Produce media materials like TV and radio spots to sensitize young people on the harmful effects of tobacco use.
19. Create a website to provide updated information on tobacco to young people and the public in general.
20. Prepare and circulate a quarterly newsletter on tobacco control issues for teachers and trainers.
21. Conduct high-visibility media and community events (e.g. World No Tobacco Day) to draw youth attention, support and understanding of tobacco-related issues.
22. Encourage youth-friendly media to publish information on tobacco use and its consequences.

Tobacco Dependence and Cessation

23. Establish a counseling service on smoking cessation for young people either in or outside school.

7. List of Tables

Global Youth Tobacco Survey

Table 1: Ever smokers, current smokers and susceptibility to start smoking	11	
Table 2: Age of first trying a cigarette	13	
Table 3: Reasons to start smoking	15	
Table 4: Number of cigarettes smoked		
Table 5: Experimentation with other tobacco products and tobacco mixed with other drugs.	18	
Table 6: Knowledge of harmful effects of smoking on health	19	
Table 7: Attitudes towards smoking	20	
Table 8: Attitudes towards smoking	21	
Table 9: Places where current smokers usually smoke		22
Table 10: How current smokers/students get their cigarettes	23	
Table 11: Purchase of cigarettes in stores by minors	25	
Table 12: Purchase of cigarettes, loose or in packets	25	
Table 13: Exposure to environmental tobacco smoke	26	
Table 14: Environmental tobacco smoke is harmful to health	28	
Table 15: Permission to smoke	29	
Table 16: Ban on smoking	30	
Table 17: Sources of anti-smoking media messages	32	
Table 18: Sources of pro-smoking media messages	33	
Table 19: Anti- smoking education in classes		34
Table 20: Sources of information on smoking	35	
Table 21: Dependence on tobacco	36	
Table 22: Difficulty to quit smoking	37	
Table 23: Desire to quit smoking	38	
Table 24: Reasons to give up smoking	39	

Global School Personnel Survey

Table 1: Prevalence	
Table 2: Knowledge on health effects of tobacco use	
58	
Table 3: Attitudes towards tobacco use	
59	
Table 4: Attitudes towards tobacco use	
61	
Table 5: School policies on tobacco use	
62	
Table 6: School policies on tobacco use	
63	
Table 7: Access to training and teaching materials	
64	
Table 8: Extra-curricular activities on tobacco use prevention	
66	

8. List of Figures

Global Youth Tobacco Survey

Figure 1: Ever smokers, current smokers and susceptibility to start smoking (Mauritius)	11
Figure 2: Ever smokers, current smokers and susceptibility to start smoking (Rodrigues)	12
Figure 3: Age of first trying a cigarette (Mauritius)	14
Figure 4: Age of first trying a cigarette (Rodrigues)	14
Figure 5: Number of cigarettes smoked (Mauritius)	16
Figure 6: Number of cigarettes smoked (Rodrigues)	17
Figure 7: How current smokers get their cigarettes (Mauritius)	23
Figure 8: How current smokers get their cigarettes (Rodrigues)	24
Figure 9: Exposure to environmental tobacco smoke (Mauritius)	27
Figure 10: Exposure to environmental tobacco smoke (Rodrigues)	27
Figure 11: Ban on smoking (Mauritius)	30
Figure 12: Ban on smoking (Rodrigues)	31

Global School Personnel Survey

Figure 1: Tobacco use among school personnel (Mauritius)	56
Figure 2: Tobacco use among school personnel (Rodrigues)	57
Figure 3: Attitudes towards tobacco use (Mauritius)	59
Figure 4: Attitudes towards tobacco use (Rodrigues)	60
Figure 5: Access to training and teaching materials (Mauritius)	65
Figure 6: Access to training and teaching materials (Rodrigues)	65

7. References

1. WHO. Building Blocks for Tobacco control, A Handbook. Geneva: 2004
2. WHO. MPOWER: A policy package to reverse the tobacco epidemic. Geneva: 2008.
3. Mackay J, Eriksen M, Shafey O. The Tobacco Atlas. American Cancer Society, UICC. 2006
4. Ministry of Health and Quality of Life. Mauritius Non-Communicable Diseases Survey. 2004
5. Ministry of Health and Quality of Life. Rodrigues Non-Communicable Diseases Survey. 2004
6. Warren W, Lee J, Lea V. Evolution of the Global Tobacco Surveillance System 1990-2008. CDC. 2008
7. CDC. GYTS Analysis Workshop Documentation. October 2008.
8. WHO Europe. Tobacco or Health: The Way forward. First European Conference on Tobacco Policy. 1988
9. WHO. Protection from exposure to second-hand smoke. Policy recommendations. Geneva: 2007.
10. Tobacco and the Rights of the Child. Geneva: 2001
11. Chollat-Traquet C. Evaluating tobacco control activities: Experience and guiding principles. Geneva: WHO, 1996
12. BMJ Journals. Tobacco Control. Vol. 15, Supplement II, June 2006
13. Pentz MA, Brannon BR, Charlin VL, et al. The power of policy: the relationship of smoking policy to adolescent smoking. *Am J Public Health*
14. Wakefield MA, Chaloupka FJ, Kaufman NJ, et al. Effect of restrictions on smoking at home, at school, and in public places on teenage smoking: cross sectional study. *BMJ* 2000; 321: 333-7
15. Moore L, Roberts C, Tudor-Smith C. School smoking policies and smoking prevalence among adolescents: multilevel analysis of cross-sectional data from Wales. *Tobacco Control* 2001; 10:117-23
16. Griesbach D, Inchley J, Currie C. More than words? The status and impact of smoking policies in Scottish schools. *Health Promotion International* 2002; 17: 31-41
17. Wold B, torsheim T, Currie C, et al. National and school policies on restrictions of teacher smoking: a multilevel analysis of student exposure to teacher smoking in seven European countries. *Health Educ Res* 2004; 19: 217-26
18. Poulsen LH, Osler M, Roberts C, et al. Exposure to teachers smoking and adolescent smoking behaviour: analysis of cross-sectional data from Denmark. *Tob Control* 2002; 11: 246-51
19. Trinidad DR, Gilpin EA, Pierce JP. Compliance and support for smoke-free school policies. *Health Educ Res* 2005; 20: 466-75
20. Warren C, Asma S, Lee J, Lea V, Mackay J. Global Tobacco Surveillance System: The GTSS Atlas. CDC, World Lung Foundation. 2009.