Methods:

The 2001 GYTS in Egypt is a cross –sectional school-based survey which employed a two stage cluster sampling design to produce notionally representative sample of students in grades 7-10 aging 13-15 years old.

Study design & sampling:

Stage 1 , selection of schools :

Since the target population for GYTS is youth aged 13-15 years, a list of schools eligible to participate in the survey was collected in co-ordination with the Ministry of Education (MOE).

The sampling frame consisted of all regular public schools containing any of grades7-10.The list of (governmental) public schools included the primary , prepratory and secondary school. Only general and technical (economic, agricultural,industrial ,sports) schools are involved. Private schools were excluded because of further precautions and permision to do the survey with notification & concent from every student & his parents.

The list of schools and the number of students enrolled in every school was reviewed and arranged then the sample was selected with a probability proportional to enrollment size. This meant that large schools were more likely to be selected than small schools. The outcoms of this selection process gave 50 schools with an expected survey population of 3500, with no replacement or substitution allowed for schools that did not agree to participate.

Stage 2. Selection of classes& students:

The 2nd stage consisted of systematic equal propbility sampling (with a random start) of classes from each school that participated in the survey. All classes in the selected schools were included in the sampling frame. All student in the selected classes were eligible to participate in the survey. So in each school , depending on the number of classes listed, one or two or three of those classes were selected and in each class selected, every student present was inerviewed.

A weighting factor was applied to each student record to adjust for non response and for the verying probabilities of selection SUDAAN and Epi Info were used to compute 95% confidence intervals for the estimates, for the 2001 GYTS in Egypt.

The questionnaire:

The Egyptian version of the questionnaire consisted of 63 questions.The questionnaire was a salf- administered type which consisted of a " core" component and an " optional " component.

The care questions allow for comparsion between countries & regions, and the optional questions allow for specific issues pertaining to individual countries.

A group of exports on tobacco addiction from the 1st group of countries selected undertake GYTS, and staff members of Who/ TFI and UNICEF, wrote the " core " part of GYTS .In addition, Egypt selected questions (optional) according to the situation in Egypt and modified some of the questions because of the culture and religious tendency in the country.

These additional questions were put together by a team of researchers from WHO, Ministry of Health , Ministry of Eduction UNICEF and NGOs in the country.

All the questions were multiple-choice and a port from the questions that asked about background information such as age, gender and class level. The other questions solicited information on the use of tobacco (prevalence, access, brand of cigarettes and other tobacco Products), knowledge and attitudes towards smoking , environmental tobacco smoke, cessation, media and advertising, school curriculum and community responses to smoking.

It was necessary to translate the questionnaire, the school and parent notification, instructions for the survey administrators and students to the Arabic language by expects in translation in co-ordination with the MOE and members of WHO.

In order to ensure face validity, the questionnaire were pre-tested in Arabic (pilot) on focus group and modified according to the results before it was administered to schools.

Date Collection:

Survey procedures were designed to protect the students' privacy by allowing for anonymous and voluntary procedures.

Before data collection could take place, the project was discussed in detail with the Director of primary health care and preventive medicine and the Director of central Directory of the protective medicine and health promotion in the ministry of health and Director of Researches in the ministry of Education.

A training workshop for research administrators in Egypt was help in Cairo form Sept 26 to 27 ,2001. The basic aim of the training workshop was the standardization of the research methodology.

At the training workshop, with the use of the GYTS 2001 handbood, the core and optional questions to be included in the final questionnaire were reviewed, item by item. Tasks were identified and discussed, GYTS survey design & procedures, as well as the list of sample selection & the final sample size. The training dealt with the purpose of GYTS, confidenality. scheduling survey administration, doucmenting school & class

participation, presenting and administering the GYTS to the students and materials needed for survey administration.

The survey administration were selected mainly from NGDs and social workers staff of the schools selected and students of social faculty. They were assigned to specific schools and were responsible for the delivery and collection of all survey documentation forms, Answer sheets, Header sheets, and Questionnaire. All the necessary materials and copies of papers, envolops pens & pencils were offered to the survey administrators according to their duties and needs.

In coordination with MOE, Permission to enter the schools & run the survey proccedures was done and affered to all the survey administrators to be attached with the letters to each school.

Schools visits were undertaken , in order to:

 - Obtain permission from Headmasters to conduct the survey.

 -   Obtain number of eligible classes for each school for the new academic year in order to facilitate sampling of the classes.

 -   Make logistical arrangements for survey administration with each school to put a plan and detect the date to run the survey in school according to the educational schedule.

Headmasters were briefed on the objectives of the survey, how the survey was to be administered and procedures that were to be employed to ensure anonymity & confidentiality for students & schools.

Two forms were provided for each school.

The school level form & the class-room level form.

 These two forms provided the necessary identification information and were the primary data management forms.

The school level form contained the coordinating agency, the school name, the sample size and the school ID (This was applied by the OSH/CDC). The grades taught and the grades surveyed in the school, as well as the total number of eligible classes, were filled by the survey administrator. A list of random numbers was supplied by OSH/CDC and appeared just above the class tracking information. The survey administrator was expected to fill in the class tracking information. This contained a grid that was used to catalogue the completion status of each selected class.

The class-room level form also showed the coordination Agency, the school name, the sample, the school ID and the class ID. This information was previously entered by the OSH/CDC. Only one copy of the class-room level form was provided by

OSH/CDC. Additional copies were provided and each class participating in the selected school was given one.The survey administrators entered the number of students who were enrolled in the classes and the number of students who actually participated in the survey. All students in the selected classes were eligible for participation.

The Answer sheets and the Header sheets were also provided by OSH/CDC. One Answer sheet and a pencil(2b) were given to each student.

Students were not required to write their names on the answer sheet, or provide any other kind of identification information.

This answer sheet on which students were asked to record their responses was machine- readable. A Header sheet was completed for each participating class in each school and showcd the school ID(from the school level form) and class ID (form the classroom level form).

Instructions were provided to the survey administrators for procedures to be followed prior to, during and after the survey, in the classroom. Before the start of survey, a script of instruction for students was read.

Each of the survey Administrators was assigned to certain schools and each had the responsibility to collect the enrolment data of all the classes in forms II, III, IV, in each school and transmit such information to the research coordinator by hand so as the confirm the selection of the correct class or classes to be interviewed. The administration of the questionnaire, documentation of the class and school participation, and the security of the answer sheets were the assigned responsibility of the survey Administrators. The research coordinator undertake the responsibility of the final editing after translation to English language, and package of the answer sheets, the Header sheets, the classroom level forms and the school-level forms. This was done simply to establish quality data management throughont the data gathering process.

Methods:

For the Analysis, a weighting factor was applied to each student record to adjust for non -response and the varying probabilities of selection. The progrms SUDAAN and Epi Info were used to compute rates and 95% confidence intervals for the estamates. A weight was associated with each questionnaire to reflect the likelihood of sampling each student and to reduce bias by compensating for differing patterns of non-respone. The weight used for estimation is given by.

$W = W1 * W2 * F1 * F2 * F3 * F4.$

Where:

W1= the inverse of the probability of selecting the school.

W2= the inverse of the probability of selecting the classroom within the school.

F1= a School-level non-response adjustment factor calculated by school size category (Small, Medium, Large).

F2= a classroom-level non-response factor calculated for each school.

F3 = a student – level non-response adjustment factor calculated by class.

F4 = a post stratification adjustment factor calculated by gender and grade.