

#### Project Title:

# Dyslipidemia Prevalence, Perception, Treatment, and Awareness in the Tunisian Population: The ATREA Project

#### ID 5726367

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#### Abstract:

The aims of the ATERA project are to determine the prevalence of dyslipidemia and other conventional risk factors for CHD, the relationship between environmental and lifestyle factors with dyslipidemia, the perception and the knowledge of cardiovascular risk factors by the population, and above all, to strengthen the national strategy for primary and secondary prevention against CHD, in a prospective epidemiological study.

This project will be curried on in a random sampling including 10000 men and women from the seven regions of Tunisia. The screening would be assessed using an initial and an endpoint surveys covering socioeconomic, nutritional and anthropometric measures in addition to biological assessments. The Interventional section will include an educational program for hyperlipidemic patients in order to improve their knowledge about hypolipidemic diet and to obtain their motivation which is essential for long term compliance.

The endpoint survey and biological assessment will be used for study evaluation.

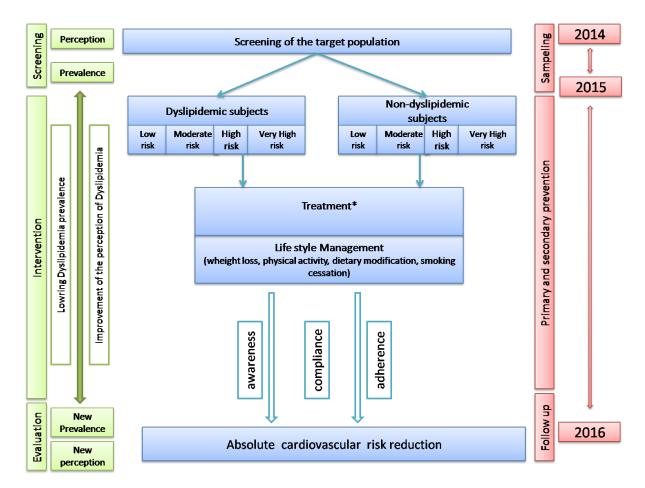


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#### 1. Overall Goal & objectives

Being aware that, disorders of plasma lipid and lipoprotein metabolism are well recognized as causative factors in the development of atherosclerotic cardiovascular disease, we have fixed the main goals of the ATERA project. First of all, we will screen the target population in order to determine the prevalence of cardiovascular risk factors and above all dyslipidemia on one hand, and his perception on the other hand. Second, we will stratify the screened population by cardiovascular risk importance. Third, in the interventional phase of the project, we will try to reach the targets of primary and secondary prevention in terms of dyslipidemia by emphasizing on life style management, by ensuring availability of treatment at primary care units and by enhancing treatment-adherence, (ie: Dietary modifications, regular exercise habits, avoidance of tobacco products and maintenance of a healthy weight). Lastly, the evaluation of the study aims to estimate the dyslipidemia prevalence lowering rate (by measuring the impact of the intervention on lipid profile), the improvement of the patients' perception and compliance (figure 1).



(\*) treatment will be administrated to the needing patients as it is recommended

Figure 1. Overview of the project program



#### 2. Technical approach:

#### A. Current assessment

The study program is divided into 6 sections:

(1) Sampling, (2) Interview, (3) baseline clinical assessment, (4) clinical and biological review.

This is a prospective, epidemiological and interventional study about the household, based on the interview of the population aged between 25 and 75 years.

The study will include a representative sample of the Tunisian population coming from seven regions (great Tunis, North East, North West, central East, central West, South East and south west).

#### 1. Sampling:

The target population will be recruited by random sampling drown by the national institute of statistics. The estimated number of participants at the end of recruitment amount to 10 000.

The frame sampling will use a two stage cluster sampling (district, household). The exclusion criteria: Individuals who are under prescribed treatment for cancer, who have received an organ transplant, who are known to have auto-immune disease, who have severe liver disease, who have chronic renal failure, pregnant women, will be excluded before and during the project.

#### 2. Interview (see appendix 3):

Interview with each eligible participant will be conducted mainly during initial assessment and after consenting the subject, it will be notified all the demographic, behavioral history, family history, cardiovascular risk factors and medical history. During the initial assessment visit, Physical examination/anthropometry data and Diet survey will be filled up by the case manager and/or investigator (see appendix 2).

#### 3. Baseline clinical assessment:

#### Organization and conduct of the survey

Before the day of the sampling:

Supervisors prepare a program of visits. They localize the households to visit (about 20 households per day) according to the lists of the national institute of statistics. They visit the programmed households informing them of the investigation and explain their objectives and modalities, they ask eligible people will be asked to participate in the complete study which will include a follow up, and request them to remain fasted 12 h and wait for the bus



that takes them to the center of the nearest care to locate the investigators and samplers teams. Finally, they prepare plan for next day.

#### The day of sampling

Before 7am, the bus driver and investigators go to the homes of households and lead programmed individuals who were warned yesterday. A blood sample shall be made (see appendix 2: guide sampler) and the tubes will be collected in a cooler.

Physicians and dieticians Investigators perform examinations and questionnaires (see appendix 1: the investigator guide). The following sequencing restrains are necessary: (a) fasting and abstinence for smoking for not less than 12 hour prior to blood sample. A snack will be provided during the exam. (b) Sitting blood pressure must be measured before blood sample. (c) Interviewing and examination must precede the medical review.

Around 9 am, the samples will be conducted (with the list of persons taken) to the laboratory.

Blood samples will be received by the laboratory team on site (biologist supervisor and two technicians) who carry out the following tasks:

- Establishment of a list of days on which they fall across the Reference (lab code), name, contact: geographic region code, district code, household code.
- Inclusion of the reference to the tubes.
- Centrifugation, distribution, dispensing, and storage of samples Dieticians and investigators conduct the verification and coding of their questionnaire. They fit the reference assigned by the team receiving the laboratory on each card medical and dietary questionnaires and submit their records from one day to the supervising physician (table 1).



#### Table 1:

Procedures	Initial clinical assessment	12 months
Weight	*	*
Height	*	*
Waist circomference	*	*
Blood pressure (3 times)	*	*
Pulse rate	*	*
Fasting Glucose	*	*
Glycated hemoglobin	*	*
Creatinine	*	*
Uric acid	*	*
ASAT	*	*
ALAT	*	*
Cholesterol,	*	*
HDL-C	*	*
Triglycerides	*	*
Complete Blood Count	*	*
Medical history	*	*
Family history of CHD	*	*
Demographic and Socioeconomic status	*	Update
Inflammation	*	*
Perception	*	*

#### 4. Clinical and biological review:

The follow up contacts will be done after 12 months within a month of the anniversary of the previous examination. During this contact the participant will be asked about hospitalization for illness or surgery, diagnosis and symptoms as well as possible myocardial infarction and intermittent claudicating if available. Phone numbers are verified and other contact information is updated. A home interview is attempt in case of participant who cannot be reached.

Clinic investigation will occur within an interval of 12 months.

During the initial interview or the follow up contacts, if there is any indication that the participant has been hospitalized, his or her medical records are obtained for all hospitalization that occurred after the baseline visit, and then the study abstractors will record all discharge diagnosis and clinical information related to coronary or cerebrovascular diseases. This will require signature from the participant on a medical release form allowing the study team to access medical records. During the follow up contact or the clinic examination it may be determined that the participant has died. In these cases the death certificate will be obtained and the place of death will be determined. If the participant death was in a hospital, the hospital record is reviewed. If the participant death was outside the hospital, the participant's family and physician will be contacted to get information on the circumstances surrounding the death. This requires giving the participant a consent form at entry to the study to contact family members and physician in case of his/ her death. The information coming from hospitalizations will be reviewed by special morbidity and mortality classification committee which will provide the diagnosis for coronary heart disease or cerebral vascular disease.

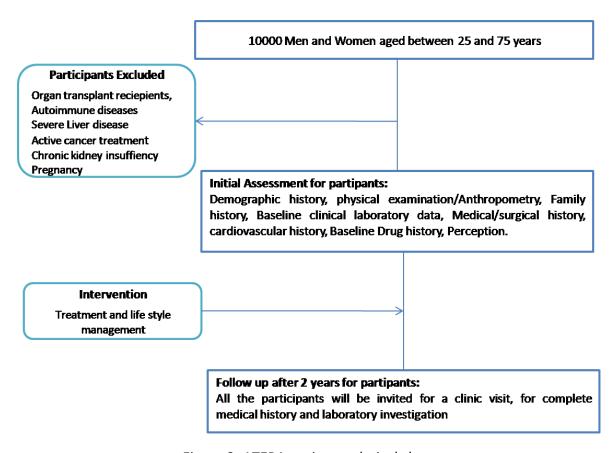


Figure 2: ATERA project technical chart



#### B. Intervention Design and methods:

Trainers will be coached to give a uniform message for dyslipidemia lowering. Participants will be allocated randomly into 500 groups. Training will be undertaken four times (twice a week) during two weeks. The training will consist of classes conducted of 20 patients. The composition of these groups should remain unchanged. During these sessions the trainer presents information of a uniform message on a topic before patient's invitation to participate in discussion. The trainer role will be to correct misunderstandings related to the topic, to explain the booklets (flyers) and visual aids content that aim to reinforce the knowledge received in the classes, strengthen the motivation to change behavior, and cultivate the precise skills necessary to accomplish such changes (figure 3).

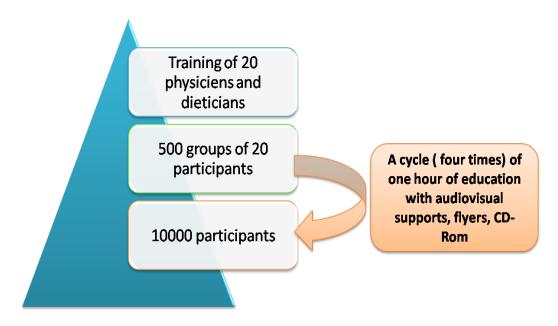


Figure 3: chart of intervention

The goals of the educational program will be to make the patient:

- Understand that CHD can be controlled
- Know clinical manifestations and possible complications of CHD as well as normal lipid levels
- Know the benefit from life style therapy that includes dietary therapy and exercise with a focus on weight loss



#### C. Evaluation design

In our project, the questions of implementation and effectiveness are central to the evaluation.

INPUT	s	ACTIVITIES	OUTPUTS	SHORT-TERM EFFECTS / OUTCOMES	INTERMEDIATE EFFECTS / OUTCOMES	LONG-TERM EFFECTS / OUTCOMES	
	PROCE	SS / IMPLEME	NTATION	оит	COME / EFFECT	IVENESS	

Health behavior models (HBM) have provided the basis for the development and evaluation of dyslipidaemia lowring management programs.

Researchers have used health behavior change models to better understand dietary and exercise behavior as a means to manage dyslipidaemia.

The health belief model postulates that self-efficacy and perceived risk are central to behavior change. According to the HBM, individuals who perceive themselves to be at risk for a specific health condition are more likely to be motivated to change their behavior. Self-efficacy is the resource for change, and individuals who have greater self-efficacy are more likely to engage, persist, and maintain a behavior.

Social marketing is an important strategy for interventions although it is often best used in combination with other interventions, particularly if the goal of the program is a complex behavior In the development of communication strategies, marketing campaign designs should be driven by applying behavioral theories. Goals of the communication efforts should be specific, realistic, and measurable (such as "Be physically active for 30 minutes, 3 days a week"). Short-term goals should be directed at increasing physical activity and nutritious eating habits, and long-term goals should be focused on maintaining these behaviors.

Community partner involvement is key in making the population-based communication strategies more personal to individuals, ultimately making efforts more effective.



Theory/Model	Summary	Key Concepts			
Individual Level					
Health belief model	For people to adopt recommended physical activity behaviors, their perceived threat of disease (and its severity) and benefits of action must outweigh their perceived barriers to action.	Perceived susceptibility (ie: does the individual think they may become dyslipidaemic)  Perceived severity (ie: what will happen if I am dyslipidaemic? low self-esteem or heart disease)  Perceived benefits of action (If I folllow this plan, will I lower my Cardiovascular risk?)  Perceived barriers to action (ie: I don't have time or money to eat healthy)  Cues to action (ie: my parents are dyslipidaemic and I don't be that way)  Self-efficacy (ie: I believe that I can be active 30 minutes a day because my coach thaught me many ways to be active)			
Social support	Numerous social marketing strategies have been employed to increase physical activity, and fruit and vegetable consumption. These campaigns use traditional marketing strategies to target an audience and develop materials to encourage certain behaviors.	Instrumental support  Informational support  Emotional support  Appraisal support providing feedback and reinforcement of new behavior			



## **Appendix 1: Supervisor guide**

#### General points

You have been chosen (e) to ensure the oversight activities of the survey in your area, considering your professional and personal qualities that are recognized.

We rely heavily on your seriousness and sense of responsibility for Frame-investigators and motivate. You are required to be very available for questions and difficulties encountered by investigators. Emphasize to the investigators that they must be at the disposal of households.

The work of investigators did not obey in administrative schedule.

- Respect the choice of districts and clusters to include in the survey, as described in the sampling procedure.
- Properly fill-check questionnaires by investigators.
- Check-coding and coding responses to questions about the profession.
- Maintain control of the record made at household visits.

#### I/ CLUSTERS AND IDENTIFICATION OF HOUSEHOLDS TO INVESTIGATE:

The supervisor is required to:

- . Visit first district (district is a well-defined area of land of approximately 100 households) and to investigate the cluster provided with district maps provided by the National Institute of Statistics (INS) must repeat the boundaries of the district (or the area to investigate) as illustrated at carts provided by INS. supervisors can seek help from the local INS office , the National Guard , the ... Omdat to better identify districts.

These districts belong to a governorate, a delegation at a resort, a city or a district, or a city. Each district is encoded in each governorate with a 3-digit number, it is important to note carefully at the questionnaires.

- District boundaries are specified in the drawings, in case of difficulties; please contact your local INS office in your area.
- A Side maps showing each district, the INS provides a list of all households identified by the name of head of household.
- -These households are located in the islands. An island is a part of a common ground or principal town, surrounded on all sides by roads and is crossed by any street, knowing that deadlock is not considered a street, because it does not completely traverse the island. Choose the first 20 households on the list that is provided.

You need to consider the first and household as two years two limits of an interval, and if ever there were further outbreaks superimposed you must include in addition 20ménages listed.

#### SPECIAL CASES:

- 1) empty house on the list provided by the NSI. Must include the household then it is put between the first and twentieth household on the list.
- 2) -. Home to several households must include all.

#### II / - CHECKING FILLING THE QUESTIONNAIRE:

Supervisor is fed every day:

- \* read and inspect all the completed questionnaires.
- \* check if the number of people interreges is consistent with the composition of the household.
- \* check the consistency of responses.
- \* check if all questions were asked.
- \* check if the answers are stereotypes can do a quick interview suspect or "sloppy."
- \* verify that the identification variables were filled in each first page of each module.

#### III / - CODING SURVEYS:

On geographical codes:

- Codes governorate and district are provided by the NSI.

For the household number, you can use household number listed on thelist provided by INS

If superimposed households (home to several households) use the number from 30 (30, 31 ....)

For the rest, the questionnaires have been designed to so that the coding task is as lean as possible.

Most often, the interviewer is required to circle one code (the appropriate response) or to a number.

#### IV / - ESTABLISHMENT OF A WORK SCHEDULE:

Each supervisor work is required to establish a work schedule. This schedule shall specify:

- Dates of working days (date of field trip)
- Clusters to investigate for each working day
- Distribution of investigators working in clusters

Supervisors are encouraged to try to best comply with this schedule.

#### V / - TAKING A DAY OF MATERIAL CONTROL OF VISITS MADE WITH HOUSEHOLD:

The supervisor is required to complete daily listing of control of visits made from households. This sheet can track the progress of the investigation, to identify households could not be interviewed and requiring another visit.

Finally, the supervisor is brought:

- \* At the beginning of each day to ensure that all the necessary equipment for the survey (questionnaires, checklists, pencils, erasers ... ) is available and functional.
- \* At the end of each day to collect all questionnaires for each cluster and plug control cluster in an envelope.

#### WHAT EVERY SUPERVISOR SHOULD DO

Supervisors have many tasks during the investigation.

- ensure smooth compliance with the terms of sampling and choixdes households to be surveyed
- provide investigators questionnaires and other materials fieldwork.
- assign clusters or families investigators.
- watch from time to time each of investigators at the time of interview of household members and correct any errors found ( check the investigators ask the questions as directed, they do not lead to specific responses ).
- review questionnaires As
- check that the answers are legible
- check the consistency of responses
- Some investigators to check whether there is a lot of rejection or empty households
- Whether investigators have completed all modules in the number of people eligible for the survey
- note appointments for families who could not be interviewed and require return, indicating their addresses
- -verify that investigators do not replace families who are difficult to reach by other families
- answer questions, solve problems, and give feedback to the team that conducted the interview on the progress of the investigation

Always have a notebook on-esteem and note the sampling procedure (details of clusters sélectionées) how families were assigned to investigators and all difficulties on the ground -collect the questionnaires that are completed properly and keep them in a safe place



## Appendix 2 :The interviewer's guide

The main purpose of this investigation is to study the level of behavioural and physiological risk factors of atherosclerosis in persons aged 35-70 years residing in Greater Tunis. This will be done by asking questions to the persons concerned. Detailed information will also be collected on families.

Your supervisor will give you a list of families to visit, or tell you how to find families. These homes are adjacent, you need to consider the first and twentieth household as two limits of an interval, and if ever there were further outbreaks superimposed you must include in addition to the 20 households on the extras list. You must visit all families.

In each family, you should interview all persons aged 35-70 years. If you visit a family that has no person of this age, you still ask the same questions about the family.

If no one is at home when you go to interview the family, ask the neighbours if the house is uninhabited. If it is busy, ask neighbours when family members return. Arrange with your supervisor to go back when it is busy, or at the end of the day. Rate these plans on your sheet control cluster and note the time you go back to the page of the list of families' questionnaire. Do not replace your initiative by another family. Always ask your supervisor.

If no one is home again if you leave, then bookmark this family in your record as "missing". Your supervisor may give you instructions for returning families. In areas where separated families are difficult to identify, such as people with many families consider the entire home as a family, and interview all persons aged 35 to 70 years in this house.

In the particular case where a house has several households, they must investigate all.

ask your supervisor if you are unsure of what to do when you cannot locate a family or when you cannot complete an interview. Always keep a record of the sheet control cluster families you've visited and where he had no one at home.

#### **HOW TO INVESTIGATE?**

- \* Behave in an informal manner, casual and conscientious. use the questionnaire careful manner.
- \* To ensure that you understand the exact purpose of each question. This will help you know if the answers you receive are adequate.
- \* ask the questions exactly as they are written. Even small changes in the wording can distort the meaning of the question.
- \* ask questions clearly going slowly.
- \* Ask questions in the same order as they are listed in the questionnaire.
- \* Ask all the same questions if the respondent answers two questions at once. You can explain that you need to ask each question individually, or say "just to be sure..." or "just to refresh my memory .... " and then ask the question.
- \* Help your respondents to feel comfortable, but make sure you do not suggest answers to your questions.

- \* Do not leave a question unanswered unless we asked you to pop the question. unanswered questions are difficult to treat later. At the office, it would be like if you forgot to ask.
- \* note the answers immediately. Note any relevant comments made by other people, and mentioned who these people are. Check all questionnaires before leaving the family to ensure that it is properly complete.
- \* thank the respondent for his cooperation. Remember the programming of the survey and do not stay too long chatting.

#### general points:

- Dress properly your appearance gives the respondent a first impression of you.. the way you dress will affect the success or failure of the survey. dress properly and simply.
- -respect the beliefs and customs of families.
- -establish a rapport with the respondent.
- -try not to arrive at the meeting at an inappropriate time of the day, such as lunchtime. try to arrive when the respondent will not be too busy to answer questions.

Stand-by name and mount your identification. Explain the survey and why you want to interview persons aged 35-70 years in the family, just as your introduction you said.

- -be ready to explain what is meant by confidence and convince respondents to participate if they are reluctant. If the respondent refuses to be interviewed, the reasons noted in the questionnaire, if possible.
- Stay calm and polite at all times.
- -probe to see if the fool adequate responses.
- -stop and wait if the respondent tries to remember the harsh elements.
- -ask respondents to clarify its response if necessary. you can misunderstand the respondent.

#### How to complete the questionnaire?

The survey includes 2 modules:

- \* Module "characteristics of households"
- \* Module "individual listing on the risk factors of atherosclerosis"
- -anthropometric measurements
- -measures blood pressure
- A blood sample

#### **MODULE 1.1: Characteristics of households**

This module includes 6 parts:

- -part of the geographical identification
- part-on the visits you have made to the household
- -part on the identification of survey staff (interviewers, supervisors, data entry clerks).
- -a section on household composition
- -part of the socio-economic characteristics of household
- -the last part on habitat conditions

#### How to complete this module:

Number input: to be completed by the agent

Agent Number of input: to be completed by the agent Agent Name input: to be completed by the agent

#### **IDENTIFICATION GEOGRAPHICAL:**

Governorate-Code: turn right (coding part) the one-digit code governorate your supervisor gave you. District Code: Enter the district code 3 digits as requested by your supervisor.

- -Household Number: Enter the number of the household as requested by your supervisor (the number on the sheets provided by the LNS listing the households.
- 1/-Governorate: indicate the governorate where the household is located
- 2/-Delegation: indicate the delegation where is located the household
- 3/-District: put the district code to 5 digits
- 4/-Nom and name of head of household: the head of household is the person who financially supports the household
- 5/-Addressee household: Exact addresses of «household» eventually recontact the household

#### **IDENTIFICATION OF STAFF SURVEY:**

- 1 / First and last name and number of the interviewer: enter your full name and put right the ISSUE that your supervisor gave you
- 2/-Nom and name and number of the nurse: Write the full name and number of nurses
- 3 / First and last name and number of the nutritionist: write the full name and number of the nutritionist

#### **HOUSEHOLD COMPOSITION:**

Then complete the table «HOUSEHOLD COMPOSITION." It provides questions to get the names and ages of all family members of the household, and to get the name, age, date of birth and sex of each person who ordinarily resides in the family. It will also provide a record of your examinations upon.

Table can rise as information on:

- All other usual resident persons in the household (including ones helping and staying at home (servant))
- Soldiers, prisoners, hospital patients or pupils currently residing in the boarding school.

#### DO NOT INCLUDE BUT STUDENTS DO NOT RESIDENTS CURRENTLY IN THE HOUSEHOLD

Clarify their relationship to the head of household, their grade level.

**NB:** The head of the household must be on the table even if not currently residing in the house.

#### **HOW TO COMPLETE THIS TABLE:**

1) - ask the interviewee to cite residents usually people including soldiers, people eventually hospitalized. (Not counting all times children or other persons who reside in another home, except

pupils and students who live elsewhere) whether present or absent, starting with the head of household and his wife, then other adults, and the children people.

Always ask the interviewee if she forgot possibly someone, in which case it must be added in the table.

Usually a family consists of head of household, spouse and children, knowing that when the son or daughter is getting married and are no longer included in the parental household. Possible types of families are:

- Husband, wife and unmarried children
- Husband and wife without children
- Married Woman with unmarried children (the husband being such emigrated abroad)
- Divorced woman or widow with unmarried children
- Widowed or divorced father with his unmarried children
- Siblings, double orphans
- \* Column 1: This column allows you to assign each member of the household identification number
- \* Column 2: Name: Enter the full name of each household member
- \* Column 3: Relationship to head of household

Bottom of the table you will find the different possible answers for each of them with a code. Register for each person the corresponding code:

- 1 -head of household
- 2 -for wife
- 3 -son or daughter
- 4 -little girl or little son
- 5 -son in-law or girl in-law
- 6 -for parents or parents-in-laws
- 7 -other
- 8 -servant
- 9 -when it has no relationship to the head of household for persons other than servant.
- \* Column 4: Gender: circle (1) if sex is male and (2) if sex is female
- \* Column 5: Date of birth: this column especially interested moin children aged one year.

Date of birth: ask date of birth. Uses an O in all areas if the month or day does not contain 2 digits, e.g. the month of March is coded "03"

#### Question 6:

Age. Demander the age of each person aged over one year

You must record an age for each personne.ne not leave this column blank for any child

#### VISITS:

1/-Date first visit: indicate the date of your first visit to the household: day / month / year



- 2/-Nombre of visits made to the household : présicer exactly how many times you have visited the household
- 3/-Résultat : circle the appropriate response code .
- if there are people in the household, but neither feels able to answer the questionnaire circle (2). This possibility should be rare, explain to the household that the questions are fairly easy and do not experience difficulties to respond.
- if there are no persons in the house, circle (3)

This situation should be exceptional , ask the neighbors when it may be possible to find people in this house .

- circle (4) categorical refusal to answer and (5) if the apartment is not inhabited. Eligible people (aged 35 to 70 years)

Fill in the table based on the second page:

- -the first column is on the number of the person in the household (derived from Table household composition).
- -the second column: name and surname of the persons concerned
- -the following 3 colonnes provide information on the outcome of the visit for each person, muettez a cross in the appropriate box (one of the 3 columns).
- -2 following columns provide information on the action taken on returns for those absent.



## **Appendix 3: Interview**



Full name of the invest	tigated		Sex: MF
Geographic region:			Date of survey:
district code:	family code:	. personal code:	investigator code :

### **SECTION 1: HOUSEHOLD CHARACTERISTICS**

Full name of the head of household:	Sex: MF
Date and place of birth:	
Address:Phone number:	
weight (in Kg) : Waist size ( in cm) :size (in cm)	
PA systolic 1: PA diastolic1 : heart rate 1.	
PA systolic 2: PA diastolic2 : heart rate 2 PA systolic 3: PA diastolic3 : heart rate 3	

QUESTIONS	Response options		CODE
Is the the head of	Yes	1	
household having a	in unemployment	2	
professional activity?	housework	3	
	pupil, student, training	4	
	retired	5	
	elderly person without pension	6	
	unemployable	7	
	other, specify	8	
If yes, specify			
Is the spouse of the household a professional	yes	1	
activity?	in unemployment	2	
	housework	3	
	pupil, student, training	4	
	retired	5	
	elderly person without pension	6	
	unemployable	7	
	other, specify	8	
If yes, specify			

education of the head of the household	unschooled / kouteb / NAEP	1
	Primary (1 -> 6 years of schooling)	2
	secondary incomplete (7 -> 12	3
	years of schooling)	
	complete secondary (13 years of	4
	schooling)	
	higher (14 years and more of	5
	schooling)	
education of the spouse of the household	unschooled / kouteb / NAEP	1
	Primary (1 -> 6 years of schooling)	2
	secondary incomplete (7 -> 12	3
	years of schooling)	
	complete secondary (13 years of	4
	schooling)	
	higher (14 years and more of	5
	schooling)	
number of dependents		
number of people in the household		
Apartme	nt Features	
What type of housing household?	Arab house	1
	villa or floor villa	2
	apartment	3
	popular home	4
	rudimentary dwelling	5
	Oukala	6
	other, specify	7
Do you have electricity? yes	no	
What type of exhaust system you have?	sewage system	1
	septic tank	2
	channel	3
What kind of toilet you have?	private	1
	common to several homes	2
What is the source of drinking water for members of the family?	running water at home	1
	private tap outside the house	2

		public tap	3
		tank	4
		water bottle	5
		other, specify	6
your status with respect		owner	1
to the housing			
		in homeownership	2
		tenant	3
		Free hosted at friends / relatives /	4
		staff housing	
	Elements of co	omfort in housing	
How many rooms (exclud	ing kitchen and health)?	(1) yes (2) no	
You have a kitchen?		(1) yes (2) no	
You have a bathroom?		(1) yes (2) no	
You have a refrigerator?		(1) yes (2) no	
You have a washing mach	ine?	(1) yes (2) no	
You have a dishwasher?		(1) yes (2) no	
You have a satellite dish?		(1) yes (2) no	
You have internet?		(1) yes (2) no	
You have a TV?		(1) yes (2) no	
If yes, specify the number			
you have a heating		(1) yes (2) no	
If yes, specify the number	r		
You have an air condition	er?	(1) yes (2) no	
If yes, specify the number			
You have a phone? (fixed	or mobile)	(1) yes (2) no	
If yes, specify the number mobile)	per of lines (fixed and		
You have a car?		(1) yes (2) no	
If yes, specify the numb	oer		
You have a computer?		(1) yes (2) no	
If yes, specify the numb	per		
		CCESS TO CARE	1

What is the distance between the first health center and your home?	Less than 5 km	1
center and your nome:	5 km and more	2
	less than half an hour	1
	half an hour or more	2
FINANCIAL AG	CCESS TO CARE	
What type of insurance coverage available to	Indigent (needy person)	1
members of the household?	care card with reduced rate	2
	CNAM Formula 1	3
	CNAM formula 2	4
	CNAM Formula 3	5
	Ministry of the Interior	6
	Ministry of Health	7
	Ministry of Defence	8
	free care	9
	paying	10
	other, specify	11

#### **SECTION 2: Physical activity:**

1 - stress in everyday lif	ife	av	/da	r١	ve	e	in	ess	tr	- 5	1
----------------------------	-----	----	-----	----	----	---	----	-----	----	-----	---

1-1 Facing difficult problems (family, staff). Your ability to cope is it?

Excellent

very good

Good

fair Bad

1-2 Whether they are the 3 main sources of stress in your life every day (do not suggest an answer.)

Put a cross in front of the proposed response:

Time constraints / lack of time

State of mental, physical or emotional health

financial situation

Concerns in the work

Fear not work

The made of childcare

Caring for others (family, parents)

Another source of stress state

None

1-3 What is the main source of stress among the three situations proposed above?

Ī	1	2	3	4	5	6	7	8	9	10	



#### **SECTION 3- PERSONAL HISTORY:**

Are you hypertensive? yes	no			
If yes, what is your age at the discovery	of hypertension:	years		
How long it has been discovered:	months	years		
Do you receive Currently one or more	treatments:	yes	no	
Do you follow a specific diet plan specifi	cally:	yes	no	
Are you regularly monitoring your hyper	tension:	yes	no	
Are you diabetic:				
If yes, what is your age at the discovery		years		
How long it has been discovered mo	nths years			
you use one or more traitemants of diab	•		no	
If yes, specify ene lla or checking the app	propriate boxes:			
INSU				
ADO				
Diet				
Are you regularly monitoring your diabe	tes?		yes	no
Balance it is:				
Good				
Average				
Bad				
Do not know				
Have you ANGOR ?			yes	no
If yes, what is your age at the discovery	: years			
How long it has been found? Montl	hs,years			
Currently, you receive one or more Med	ical Treatments?		yes	no
Are you regularly monitoring: yes you no	onRecevez replac	ement therap	y? yes	no
If yes, which:				
If so, how long: months y	ears			
Other treatment (specify the nature and	l duration):			



## Dyslipidemia "knowledge, Perception"

	True	False	Do no know	Code
1. Eat a lot of <b>fat</b> is a risk factor of heart diseases		2	3	_
2. Eat a lot of <b>fat</b> is a risk factor of obesity		2	3	
3. Eat a lot of <b>fat</b> is a risk factor of dyslipidemia		$\square_2$	3	
4. Eat a lot of <b>sugar</b> is a risk factor of heart diseases		2	3	_
5. Eat a lot of <b>sugar</b> is a risk factor of obesity		$\square_2$	<u></u>	_
6. Eat a lot of <b>sugar</b> is a risk factor of dyslipidemia		$\square_2$	3	
7. Eat a lot of <b>salt</b> is a risk factor of heart diseases			3	
8. Eat a lot of <b>salt</b> is a risk factor of obesity			3	
9. Eat a lot of <b>salt</b> is a risk factor of dyslipidemia		2	3	
10. Eating a lot of <b>food</b> is a risk of heart diseases		2	3	
11. Eating a lot of <b>food</b> is a risk of obesity		2	3	
12. Eating a lot of <b>food</b> is a risk of dyslipidemia		2	3	
13. Lack of <b>physical activity</b> is a risk of heart diseases		2	3	
14. Lack of <b>physical activity</b> is a risk factor of obesity		2	3	
15. Lack of <b>physical activity</b> is a risk factor of dyslipidemia		2	3	
21. Physical activity promotes my health		$\square_2$	3	
22. Physical activity contribute to weight control			$\square_3$	_
23. Physical activity makes me more dynamic		$\square_2$	$\square_3$	_
24. <b>Obesity</b> increases the risk of heart diseases		2	3	
25. <b>Obesit</b> y increases the risk of dyslipidemia		2	3	
26. <b>Obesity</b> increases the risk of developing hypertension		2	3	_
27. A high blood cholesterol is a risk factor of heart diseases		$\square_2$	□3	_
28. Smoking increases the risk of heart diseases	$\square_1$	$\square_2$	$\square_3$	_
29. Smoking increases the risk of dyslipidemia		$\square_2$	$\square_3$	_
30. Eating fat is good for health		$\square_2$	3	_
31. <b>Dyslipidemia</b> is a high level of blood cholesterol		2	3	_
32. A <b>single dosage</b> of blood cholesterol allows dyslipidemia diagnose		$\square_2$	З	_
33. A healthy lifestyle is sufficient to treat dyslipidemia		2	3	_



						Mean fr	equency						Qı	uantity		
Food	Code	Never or less	1	2-3	1	2-4	5-6	1	2-3	4 or +		Deference		Portion		
		1 time/ month	time/ month	times/ month	time/ week	times/ week	times/ week	time/ day	times/ day	times/ day	Code	Reference portion	Less	Same	Over	Code
Red meat																
Beef		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Mouton		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Camel		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□ 8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Goat		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□ 8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Poultry																
Chicken,		$\square_1$	$\square_2$	$\square_3$	$\square_4$		$\Box_6$	$\square_7$	□8	□ 9	//			$\square_2$	$\square_3$	//
Turkey		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Fishs		$\square_1$	$\square_2$	$\square_3$	□ 4		$\Box_6$	$\square_7$	□8	□ 9	//			$\square_2$	$\square_3$	//
Seafood products		$\square_1$	$\square_2$	$\square_3$	□ 4		$\square_6$	$\square_7$	□ 8	□ 9	//			$\square_2$	$\square_3$	//
Offals		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Liver		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□ 8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Eggs		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
High fat content of dairy																



Whole milk/ Rayeb	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//	$\square_1$	$\square_2$	$\square_3$	//
Cream	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//	$\square_1$	$\square_2$	$\square_3$	//
Fat cheese	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	□ <sub>9</sub>	//	$\square_1$	$\square_2$	$\square_3$	//

					Mean fre	quency						Qι	antity		
Food	Never	1	2-3	1	2-4	5-6	1	2-3	4 or +		Deference		Portion		
	or less 1 time/ month	time/ month	times/ month	time/ week	times/ week	times/ week	time/ day	times/ day	times/ day	Code	Reference portion	Less	Same	Over	Code
Low fat content of dairy															
Half skimmed milk	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
Lben	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Yogurt	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Ricotta	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Fat	$\square_1$	$\square_2$	$\square_3$	$\Box_4$	$\square_5$	$\Box_6$	□ <sub>7</sub>	□ 8	□ <sub>9</sub>	/_/			$\square_2$	$\square_3$	/_/
Butter	$\Box_1$	$\square_2$	$\square_3$			$\Box_6$		□ 8	□ 9	//			$\square_2$	$\square_3$	//
Smen	$\square_1$	$\square_2$	$\square_3$	$\Box_4$	$\square_5$	$\Box_6$	$\square_7$	□8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
Margarine	$\square_1$	$\square_2$	$\square_3$	$\Box_4$	$\square_5$	$\Box_6$	$\Box_7$	□ 8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
High carotenoid content	$\Box_1$	$\square_2$	$\square_3$	□ 4		$\square_6$		□8	□ 9	/_/				$\square_3$	/_/
Carrot			$\square_3$			$\Box_6$		□8	□ <sub>9</sub>	//				$\square_3$	//



Parsley	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//	$\square_1$	$\square_2$	$\square_3$	//
Spinach	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	$\square_9$	//	$\square_1$	$\square_2$	$\square_3$	//
Tomato	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//	$\square_1$	$\square_2$	$\square_3$	//
Low carotenoid content (all other vegetables)	$\square_1$		□ 3	□ 4				□ 8	□ <sub>9</sub>	/_/			$\square_3$	//
Garlic	$\square_1$	$\square_2$	$\square_3$	$\square_4$		$\Box_6$		□8	$\square_9$	//		$\square_2$	$\square_3$	/_/



						Mean fr	equency						Q	uantity		
Food	Code	Never or less	1	2-3	1	2-4	5-6	1	2-3	4 or +		2.6		Portion		
		1 time/ month	time/ month	times/ month	time/ week	times/ week	times/ week	time/ day	times/ day	times/ day	Code	Reference portion	Less	Same	Over	Code
Onions		$\square_1$	$\square_2$	$\square_3$	□ 4		$\Box_6$		□8	□ <sub>9</sub>	/_/		$\square_1$	$\square_2$	$\square_3$	//
French Fries		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
Cereals																
Couscous		$\square_1$	$\square_2$	$\square_3$	□ 4	$\square_5$	$\Box_6$	$\square_7$	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//
Mhamess		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
Nouacer		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//
Macaroni		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
Riz		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//
Other cereals		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//
Oil																
Olive oil			$\square_2$	$\square_3$	□ 4		$\Box_6$		□ 8	□ <sub>9</sub>	//			$\square_2$	$\square_3$	//
Subsidized oil		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	□ <sub>7</sub>	□ 8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Other oil		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//



Fruits		$\square_2$	$\square_3$	□ 4		$\Box_6$	□ 7	□8	□ 9	//	$\square_1$	$\square_2$	$\square_3$	//
Fresh juice fruit w/o sugar	$\square_1$	$\square_2$	$\square_3$	□ 4	$\square_5$	$\square_6$		□ 8	□ <sub>9</sub>	/_/			$\square_3$	//
Fresh juice fruit w sugar	$\square_1$	$\square_2$	$\square_3$	□ 4	$\square_5$	□ 6	$\square_7$	□8	□ 9	/_/			$\square_3$	//
Industrialized juice fruit	$\square_1$		$\square_3$	□ 4	$\square_5$	□ 6	$\square_7$	□8	□ <sub>9</sub>	/_/			$\square_3$	//

						Mean fro	equency						Q	uantity		
Food	Code	Never or less	1	2-3	1	2-4	5-6	1	2-3	4 or +		2.6		Portion		
		1 time/ month	time/ month	times/ month	time/ week	times/ week	times/ week	time/ day	times/ day	times/ day	Code	Reference portion	Less	Same	Over	Code
Coffee				$\square_3$	□ 4				□ 8	□ 9	/_/					//
Tea		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□ 8	$\square_9$	//		$\square_1$	$\square_2$	$\square_3$	//
Confectionaries																
biscuits		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//
Tunisian pastry		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Brioche, croissant		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□ 8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Cream pastry		$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//



Chocolate	_	$\Box_1$		□ 3	□ 4				□8	□ <sub>9</sub>	/_/		$\Box_1$		$\square_3$	/_/
sweets		$\square_1$	$\square_2$	$\square_3$	□ 4		$\square_6$	$\square_7$	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Fast foods	$\square_1$	$\square_2$	$\square_3$	□ 4				□ 8	□ <sub>9</sub>	/_/		$\square_1$		$\square_3$	/_/	
Sandwich	$\square_1$	$\square_2$	$\square_3$	$\square_4$		$\square_6$	□ 7	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$
Chapati	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	□ 7	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$
Chawarma	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	□ 7	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$
Shan tounsi	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	□ 7	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$
Pizza	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	□ 7	□8	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$
Donut//fricassé	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\square_6$	□ 7	□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$
pancake	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	$\square_8$	□ <sub>9</sub>	//		$\square_1$	$\square_2$	$\square_3$	//	$\square_1$



						Mean fro	equency						Qı	uantity		
Food	Code	Never or less	1	2-3	1	2-4	5-6	1	2-3	4 or +				Portion		
, , ,		1 time/ month	time/ month	times/ month	time/ week	times/ week	times/ week	time/ day	times/ day	times/ day	Code	Reference portion	Less	Same	Over	Code
Soda			$\square_2$	$\square_3$	□ 4		$\Box_6$		□8	□ <sub>9</sub>	//			$\square_2$	□ 3	//
Ice cream		$\square_1$	$\square_2$	$\square_3$	□ 4	$\square_5$	$\Box_6$	□ 7	□ 8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Jam		$\square_1$	$\square_2$	$\square_3$	□ 4	$\square_5$	$\Box_6$		□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//
Honey			$\square_2$	Пз	□ 4				□8	□ 9	//		$\square_1$	$\square_2$	$\square_3$	//

#### Tobacco consumption

Do you currently	smoke?	(1) Yes (2	2) No	_
	IF YES: do you smoke cigarettes?	(1) Yes (2	2) No	ll
Cinquettos	IF YES: number of cigarettes/day			_ _
Cigarettes	How long?	Year		_ _
	How long?	Month		_ _



	Do you smoke <b>neffa</b> ?	(1) Yes (2) No	l_l
	IF YES: chewing through the mouth?	(1) Yes . (2) No	II
Noffa	snuff through the nose	(1) Yes (2) No	I_I
Neffa	IF YES: number of pack/day		I_I_I
	How long?	Year	_ _
	How long?	Month	I_I_I

Do you currently	smoke?			(1) Yes	(2) No		_
	Do you smok	e <b>chicha</b> ?		(1) Yes	(2) No		_
Chicha	IF YES:	number of <b>chicha</b> /day			_		
	IF YES:	number of <b>chicha/</b> mon	th				
	IF YES:	number of <b>chicha/</b> year					
l l	F <b>NO</b> : Are you a former sn	noker?		(1) Yes	(2) No		
		Tu					
IF YES:		ı y	pe	Month		Year	
		Tobacco	lI			_ _	
		Neffa		III		l_l_l	
		Chicha	11	l_l_	l		

#### Alcool consumption

Consommez-	ommez-vous une boisson alcoolisée ?									(1) Yes		_
	Frequency											
Туре	Never	Less 1 time/ month	2-3 times/ month	1 time/ week	2-4 times/ week	5-6 times/ week	1 time/ day	More 1 time/ day	Code	Reference quantity	Quantity (X référence)	Code
Beer	$\square_1$	$\square_2$	$\square_3$	$\square_4$		$\Box_6$	$\square_7$	□8	//	1 bouteille		//
Wine	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	$\square_8$	//	1 verre		//
Whisky	$\square_1$	$\square_2$	$\square_3$	$\Box_4$		$\Box_6$	$\square_7$		//	1 dose		//
Methylated	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	//	1 verre		//



spirit												
Vodka	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	//	1 dose		//
Gin	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\square_7$	□8	//	1 dose		//
Legmi	$\square_1$	$\square_2$	$\square_3$	□ 4	$\square_5$	$\Box_6$		□8	//	1 litre		//
Others	$\square_1$	$\square_2$	$\square_3$	$\square_4$	$\square_5$	$\Box_6$	$\Box_7$	□8	//			//
SI NON: Are you former alcool user? (1) Yes (2) No											l <u>_</u> l	
IF YES: stop date:											_ _	
IF TES. SLOP								r 1E3. Stop date:	Year			_ _