

**NATIONAL  
NON COMMUNICABLE DISEASE  
RISK FACTOR SURVEY**

**Report**

**DIRECTORATE OF NON COMMUNICABLE DISEASE  
MINISTRY OF HEALTHCARE AND NUTRITION  
SRI LANKA**

**MINISTRY OF HEALTHCARE AND NUTRITION  
HEALTH SECTOR DEVELOPMENT PROJECT / WORLD BANK  
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**TECHNICAL ADVISORY COMMITTEE**  
**NATIONAL NCD RISK FACTOR SURVEY**

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## **01. INTRODUCTION AND RATIONALE**

Non Communicable Diseases (NCDs) are emerging as the major cause of death and disability worldwide. This is the result of demographic and epidemiological transition, along with increases of risk factors resulting from social and economic changes. NCDs are estimated to be responsible for almost 60% of the deaths in the world and 43% of the global burden of disease (1). Based on current trends, these diseases are predicted to account for 73% of global deaths and 60% of the global burden of disease by the year 2020 (2).

For several decades, NCDs have been the burden of the developed countries of the world. Now they have been recognized as a public health threat in the developing world with the burden of disease from NCDs expected to rise by more than 60% in the developing and the newly industrialized countries over the next 30 years (2). In contrast, the increase in the developed countries is expected to be less than 10%.

The countries of the South-East Asia Region (SEAR) reported more than 7 million deaths due to NCDs in 1999, making up more than 20% of the total deaths (1). In Sri Lanka too, the NCDs are emerging as a major health priority. For example, the five leading causes of hospital deaths for 2001 were all NCDs (3).

In Sri Lanka, Non Communicable Diseases (NCD) are on the increase due to a rapid transition in lifestyle. Cardiovascular diseases solely contribute 18% deaths at the government health institutions compared to 8% deaths due to all communicable diseases. A significant reduction in births, fertility and mortality rates with a considerable increase of life expectancy had led to a growth of elderly population. In the aged population all major NCD are more visible and the prevalence is higher. When analyzing the key risk factors, the trends are in upward direction in Sri Lanka. These include increased consumption of energy-dense, nutrient-poor foods that are high in fat, sugar and salt. All these unhealthy eating patterns are in existence within the context of sedentary life.

In this background, prevention and control programmes for NCDs require specific goals and quantifiable outcomes to be reached within a defined timeframe and an assessment of their progress towards achieving them. The continuing assessment of a country's progress towards attaining such goals requires surveillance of NCDs and their risk factors (4). Emphasis is laid on the fact that the ultimate goal of surveillance is the use of the data collected for the formulation of policies and programmes to promote health and prevent disease. It is also useful for measuring the impact of preventive efforts. Similarly, analysis of trends and important emerging health issues can be incorporated into a surveillance system as well.

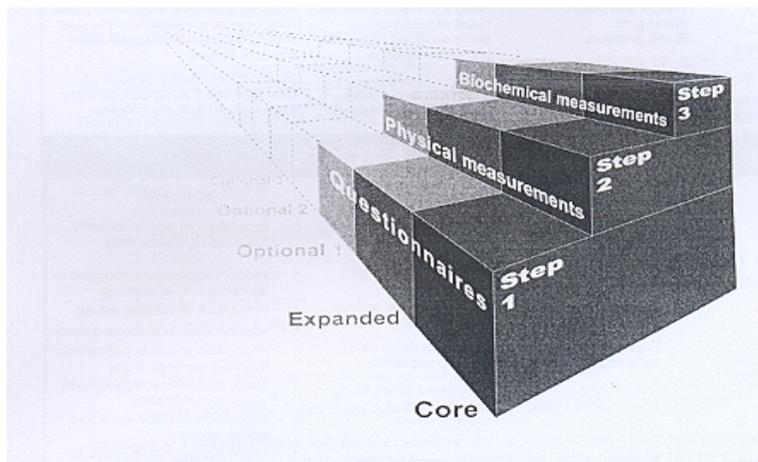
Therefore, a well functioning NCD surveillance system is considered an integral part of public health surveillance and the wider health information system, providing information for planning, implementation, monitoring and evaluation of public health intervention programmes (5). It will also raise public and political awareness concerning the likely extent of the problem with regard to NCDs and their risk factors. In Sri Lanka, considering the upward trend in the incidence of NCDs, it is timely that we initiate a simple and sustainable surveillance mechanism for NCD risk factors; hence the initiation of this baseline survey as a first step.

In countries with limited resources, the priority is to ensure the collection of at least the minimum data necessary for policy formulation, programme implementation and monitoring and evaluation, within the existing health infrastructure. Thus the emphasis is to focus on NCD risk factors and their prevention and control. The World Health Organization (WHO) has formulated the **STEPwise approach to Surveillance (STEPS)** of NCD risk factors. It is based on sequential levels of surveillance of different aspects of non communicable diseases, allowing flexibility and integration at any level by maintaining standardized questionnaires and protocols to ensure comparability over time and across borders (6).

The STEPS approach, which strives to measure these risk factors, is based on the concept that surveillance systems require standardized data collection as well as sufficient flexibility to be appropriate in a variety of country situations and settings. It also advocates that small amounts of good quality data are more valuable than large amounts of poor quality data or none at all. In addition, monitoring a few modifiable NCD risk factors are thought to be beneficial as they reflect both a large part of future NCD burden as well as indicating the success of interventions for those NCDs (6).

STEPS is a sequential process and the recommended surveillance measures are categorised according to the degree of complexity in obtaining the data . The degree of difficulty equates to whether questionnaires alone are used (Step 1), physical measures are collected in the field (Step 2) or laboratory measurements requiring external expertise are involved (Step 3). At each Step, mandatory comparable core information is collected, with the potential to collect expanded comparable information, and also information on discretionary optional variables.

**Figure 1: The general concept of the STEPwise approach to surveillance (STEPS)**



This project is the first national NCD risk factor survey conducted to ascertain the basic risk factors responsible for major NCDs in Sri Lanka after a pilot survey conducted in one health area using the same methodology. It is considered as the initial step that will pave the way to establish a mechanism for NCD risk factor surveillance in Sri Lanka.

This **national survey to assess the baseline levels of NCD risk factors** with sufficient sample size to have the power to detect changes overtime was an appropriate first step towards initiating surveillance on NCDs in Sri Lanka whilst providing important information for determining the priorities for intervention.

## **2. GOALS AND OBJECTIVES**

### **2.1 GOAL**

To establish a mechanism for Non Communicable Disease risk factor surveillance in Sri Lanka.

### **2.2 OBJECTIVES**

#### **2.2.1 GENERAL OBJECTIVE**

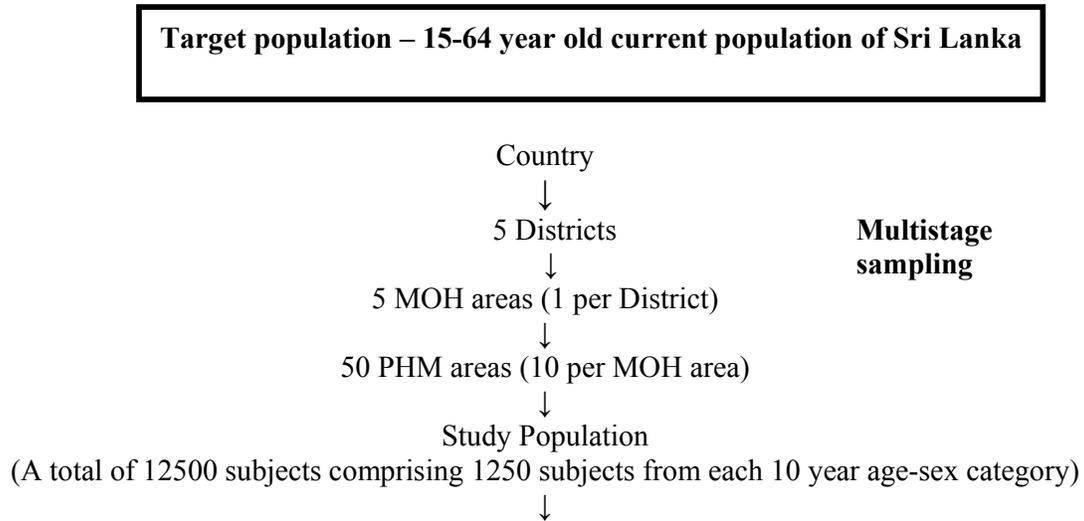
To conduct a Non Communicable Disease risk factor survey in Sri Lanka.

#### **2.2.2 SPECIFIC OBJECTIVES**

1. To ascertain the prevalence of key risk factors for major Non Communicable Diseases.
2. To assess the baseline for Healthy Lifestyle interventions of Non Communicable Disease component of Health Sector Development project.
3. To set up the infrastructure for a sustainable national Non Communicable Disease surveillance mechanism.

### 3. METHODOLOGY

#### 3.1 OVERVIEW



**STEPS Instrument for NCD Risk Factors (WHO)**

Questionnaire based assessment (Home)

↓ within 2 weeks

Physical measures (Clinic)

**Risk factors**

- 1 Tobacco use
- 2 Alcohol consumption
- 3 Fruit and vegetable consumption (Green leafy vegetables included as an Optional module)
- 4 Physical inactivity
- 5 Overweight
- 6 Blood pressure

## 3.2 SURVEY DESIGN

A **population based** national survey to study selected risk factors for NCDs was carried out using a **descriptive cross-sectional design**. The survey design was based on the “STEPwise Approach to NCD Surveillance (STEPS)” (6). The survey was conducted at the level of Step 2 (**Questionnaire based assessment** and **Physical measures**). The risk factor assessment incorporated all **Core** modules as recommended by the WHO as well as a few **Expanded** and **Optional** modules to suit local requirements.

### 3.2.1 TIMING OF ASSESSMENTS

The physical measurements were measured in the field clinic within 2 weeks of the recruitment and questionnaire based assessment which was carried out in the environs of the participant’s residence.

**Questionnaire based assessment (Home)**

↓ **Within 2 weeks**

**Physical measures (Clinic)**

### 3.2.2 SURVEY VARIABLES

#### 3.2.2.1 SELECTION OF RISK FACTORS

A “risk factor” refers to any attribute, characteristic or exposure of an individual, which increases the likelihood of developing a non communicable disease. Population measures of risk factors are used to describe the distribution of future disease in a population. The knowledge of risk factors can be applied to shift population distribution of these factors.

The WHO cites four main considerations for the choice of risk factors in surveillance activities (6):

1. The significance of the risk factors for public health in terms of the nature and severity of the morbidity, disability and mortality of the NCDs associated with these risk factors;
2. The cost of collecting valid data on a repeated basis;
3. The availability and strength of the evidence that intervening on the factor will reduce NCDs in the community and
4. The ability to measure the risk factor burden uniformly in different settings to ensure comparability and to measure changes over time.

Hence, the following **key risk factors** as per the WHO Step approach were included in the survey.

1. Tobacco use
2. Alcohol consumption
3. Fruit and vegetable consumption (Green leafy vegetables included as an Optional module)
4. Physical inactivity
5. Overweight
6. Blood pressure

### 3.2.2.2 DATA VARIABLES AND DERIVED INDICATORS

The selected risk factors were assessed by transforming them into data variables and health indicators. Appropriate indicators which focus on determinants of NCDs with the goal of eliminating health disparities and improving the number and quality of years of healthy life were used. The core indicators are given below in table 1.

**Table 1: Core indicators for the selected risk factors**

	Key Risk Factor	Data Variable	Indicator
<b>Step 1 Behavioural</b>	Tobacco use	Current daily smoker	<ul style="list-style-type: none"> <li>• Proportion of adults currently smoking cigarettes daily</li> </ul>
	Alcohol consumption	Current drinker	<ul style="list-style-type: none"> <li>• Proportion of adults currently drinking – past 30 days</li> </ul>
	Physical inactivity	Duration of total activity	<ul style="list-style-type: none"> <li>• Proportion of inactive adults</li> </ul>
			<ul style="list-style-type: none"> <li>• Median level of physical activity</li> </ul>
Fruit and vegetable consumption	Number of servings of fruit and vegetable	<ul style="list-style-type: none"> <li>• Proportion of adults eating less than 5 servings a day</li> </ul>	
<b>Step 2 Physical measures</b>	Overweight	Body Mass Index, body weight, waist circumference	<ul style="list-style-type: none"> <li>• Mean Body Mass Index, mean waist circumference</li> </ul>
			<ul style="list-style-type: none"> <li>• Proportion of overweight and obese adults</li> </ul>
	Blood pressure	Systolic and diastolic blood pressure	<ul style="list-style-type: none"> <li>• Mean systolic blood pressure</li> </ul>
<ul style="list-style-type: none"> <li>• Proportion of adults with elevated blood pressure</li> </ul>			

### **3.3 SURVEY SETTING**

The survey was conducted to assess the baseline levels of the selected risk factors in Sri Lanka. The survey was community based and the collection of data was done in 5 randomly selected districts of the country. One Medical Officer of Health (MOH) area was selected randomly from each of these districts and participants were recruited from 10 randomly selected Public Health Midwife (PHM) areas from each of these MOH areas.

### **3.4 SELECTION OF STUDY POPULATION**

A chronic disease generally occurs following prolonged exposure to risk factors and for this reason, surveillance for risk factors is recommended by the WHO in the population aged 25-64 years (6). Considering the impact of the risk factors selected for surveillance on lifestyles and the need and the potential for modification, the age group 15-24 has been added (e.g. age at initiation of smoking). Therefore, the target population comprises of males and females aged 15-64 years in Sri Lanka.

**Target population – 15-64 year old current population of Sri Lanka**

↓ **sampling**

**Study Population**

Sampling was carried out amongst those who are eligible to be participants (both females and males aged 15-64 years and resident in the geographical area) to select the actual study population.

#### **3.4.1 EXCLUSION CRITERIA**

- Age <15 years and 65 years and above
- Too frail or mentally unfit to participate
- Unable or unwilling to give informed consent

### **3.5 SAMPLE SIZE AND SAMPLING TECHNIQUE**

#### **3.5.1 SAMPLE SIZE**

- **Minimum sample size recommended**

According to WHO estimates, a minimum of 250 subjects in each 10 year age and sex group across the age range 25-64 years (a total of 2000 subjects) is thought to be sufficient to estimate the means of the variables at Step 1 or Step 2 listed in the STEPwise approach with a high level of precision (6). This basic recommendation assumes that the population is homogenous, and allows analysis by sub-groups age and sex only.

**Table 2: Minimum sample size recommended by WHO for STEPS**

Age (yrs)	Male	Female
25-34	250	250
35-44	250	250
45-54	250	250
55-64	250	250
<b>Total</b>	<b>1000</b>	<b>1000</b>

In addition, the WHO recommends increasing the minimum sample size by a further 250 females and 250 males from the particular age group for the inclusion of an additional 10 year age group (age group 15-24 years in the case of this survey).

- **Total sample size of the survey**

A total of 250 subjects (125 females and 125 males) were recruited from each PHM area for the survey. Their age and sex composition is given below.

**Table 3: Composition of the sample from each PHM area**

Age (yrs)	Male	Female
15-24	25	25
25-34	25	25
35-44	25	25
45-54	25	25
55-64	25	25
<b>Total</b>	<b>125</b>	<b>125</b>

Therefore, a total of **12500** subjects (250 subjects per PHM area × 50 PHM areas =12500 subjects) were recruited for the survey (table 4). This comprised of 1250 subjects from each age-sex category for the entire survey (compared to the minimum requirement of 2500), which will significantly increase the precision of the survey findings.

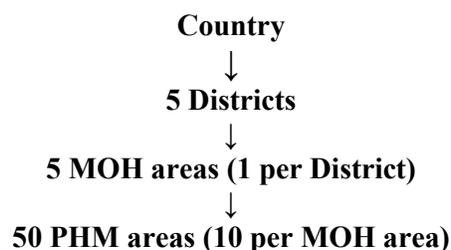
**Table 4: Composition of the total sample for the survey**

Age (yrs)	Male	Female
15-24	1250	1250
25-34	1250	1250
35-44	1250	1250
45-54	1250	1250
55-64	1250	1250
<b>Total</b>	<b>6250</b>	<b>6250</b>

### 3.5.2 SAMPLING TECHNIQUE

Multistage sampling was carried out considering the overwhelming geographical relevance of the survey and the economy in sampling and data collection. Initially, five districts were selected randomly from a list of all districts of Sri Lanka. Thereafter, from each of these districts, one MOH area was selected randomly. A list of all MOH areas of each of these districts was used for this purpose. From a complete listing of PHM areas for each of these MOH areas, ten PHM areas were selected randomly as the final-stage clusters.

Subjects who were eligible to participate in the survey were recruited from these PHM areas. Each of these 50 clusters were comprised of a total of 250 subjects (125 females and 125 males) consisting of 25 subjects from each age-sex category (Table 3).



This was the first among regular risk factor surveys planned to be conducted every 4-5 years thereafter with a view towards establishing a national NCD surveillance system, thus encompassing all districts of Sri Lanka within about 2 decades, in surveys.

### **3.6 DATA COLLECTION INSTRUMENT**

#### **3.6.1 DESCRIPTION OF THE STANDARD WHO INSTRUMENT**

**STEPS Instrument for NCD Risk Factors (Core and Expanded Version 1.4)** is the standard instrument developed and disseminated by the WHO STEPS Programme for use after adaptation and translation according to the requirements of the local setting. The framework (for Step 1 and Step 2) is shown in table 5.

Step 1 provides data from self-reported information. Standard WHO definitions for measuring prevalence of tobacco use and alcohol consumption and a new internationally devised measure of physical activity are used in the Step 1 questionnaire. Step 2 includes as a minimum, a core module and adds the physical measurements weight, height, waist circumference and blood pressure. (Details of Step 3 which incorporates Steps 1 and 2 and adds information obtained from blood samples are not given here since this survey does not include biochemical assays)

**Table 5: Standard WHO instrument at a glance**

	<b>Core Items</b>	<b>Expanded Items</b>	<b>Optional Items</b>
<b>Step 1 Behavioural</b>	Age, sex and years at school Tobacco use Alcohol consumption Physical inactivity Fruit and vegetable consumption	Ethnicity, employment, household income Smokeless tobacco, food preparation and fat consumption, types of physical activity	Examples include: items on behavioural factors such as mental health, disability, unintentional and violent injury; and/or items aimed at programme development and evaluation such as attitudes and barriers related to the CORE and EXPANDED items
<b>Step 2 Physical Measures</b>	Weight and height Waist girth Blood pressure	History of blood pressure, recall of treatment for elevated blood pressure Hip circumference	Skinfold thickness, measured pulse rate, objective behaviour of physical activity behaviour, assessment of physical fitness

**3.6.2 COMPILATION OF THE CURRENT SURVEY INSTRUMENT (Appendix 3)****Table 6: Current survey instrument at a glance**

	<b>Core Items</b>	<b>Expanded Item</b>	<b>Optional Items</b>
<b>Step 1 Behavioural</b>	Age, sex and years at school Tobacco use Alcohol consumption Physical inactivity Fruit and vegetable consumption	Smokeless tobacco use	Green leafy vegetable consumption Sedentary - watching television
<b>Step 2 Physical Measures</b>	Weight and height Waist girth Blood pressure		

The current survey operated at the second level and incorporates all Core modules of the questionnaire based Step 1 and physical measures of Step 2. In addition, it includes a few modules extracted from the Expanded items and also, selected Optional items. It does not include biochemical measures. A description of the adapted version is given in table 6.

### **3.6.3 TRANSLATION, CULTURAL ADAPTATION AND PILOT TESTING OF THE QUESTIONNAIRE**

Translation, cultural adaptation and pilot testing of the questionnaire have been done and the instrument has already been adopted at national level. Some questions have been modified from the WHO instrument to suit local needs whilst preserving their original meaning and intent in a culturally appropriate manner. This includes the examples given for the tobacco products (smoking and smokeless), alcoholic beverages, standard size of alcohol consumption, standard serving of fruit/vegetable and examples for the kinds of physical activity. The **forward-backward translation procedure** was followed for the translation of the instrument. (Annexure 1).

### **3.6.4 ASSESSMENT OF CONTENT VALIDITY**

Appraisal of content validity assesses whether the conceptual definition has been appropriately translated into operational terms and whether the components of each section cover all aspects attributed to be measured . The content validity was assessed by the members of the National Technical Advisory Committee on NCD risk factor survey comprising of multidisciplinary experts in Community Medicine, Clinical Medicine, Medical Administration Health Education and Communication.

## **3.7 METHOD OF DATA COLLECTION**

The existing regional public health structure was utilized for the collection of data considering the need for continued surveillance in future in order to integrate into the health system.

### **Recruitment and Questionnaire based assessment during field visit by PHM**

↓ **within 2 weeks**

### **Physical measures during referral clinic visit by PHM/PHI/PHNS supervised by MOH**

#### **3.7.1 RECRUITMENT AND QUESTIONNAIRE BASED ASSESSMENT**

The recruitment was done randomly using the household list. The PHM visited the household and assesses the patient for eligibility. The PMH explained the purpose of the study and the data collection procedure to eligible subjects. Thereafter, the participants were recruited after obtaining informed written consent using a standard consent form (Annexure 02). The subjects were then interviewed for the completion of sections on demographic details, tobacco use, alcohol consumption, diet and physical activity. Important aspects with regard to collection of data in each of these sections were given in the operations manual.

In none of these sections, a proxy rating by a third person (such as a family member) was allowed. If a participant refuses to answer a question or a section, it was to be noted on the form with the reason for refusal. Maximum efforts were taken to ensure the completion of all sections of the questionnaire. Special attention was paid to ensure smooth flow of questions and confidentiality was assured.

Completed questionnaires were kept in the custody of the interviewer. The participant were issued a referral card (Annexure 3) and invited to attend the field clinic for measurement of physical parameters within 2 weeks. The date, time and the location of clinic were marked on the card.

### **3.7.2 PHYSICAL MEASURES**

Existing field clinics of the selected MOH areas were chosen as survey clinics. They were equipped with the necessary measuring equipment and stationary prior to the survey. Separate stations were set up for measurement of weight, height, waist circumference and blood pressure as well as registration and checkout in sequence. A quiet room was identified to measure blood pressure.

Maximum efforts were taken to ensure the privacy of the participant during measurement. Females and males were accommodated in separate sections of the clinics to ensure privacy. On arrival, each participant was located from the list of invited individuals at the registration section. A sequential survey number was given and this was written beside the name in the census list and at the top of the individual's survey form. The participant was then given the survey instrument form and was instructed to proceed from station to station for the various measures to be taken. Important aspects with regard to measurement of each of these variables were given in the operations manual.

At the end of all measures, each participant was issued with a leaflet on "Healthy Lifestyle". Any query of the participant was discussed and thanked for the participation in the project. Those who were diagnosed to have elevated blood pressure were referred to the nearest health institute for follow up. A referral card was issued for this purpose.

All data forms were handed over to the MO/NCD who was function as the District Coordinator by the respective PHMs. The data forms in turn to be handed over to the central NCD unit. Confidentiality of all data was ensured at all stages.

## **3.8 COORDINATION AND SUPERVISION**

The overall guidance was given by the Director/NCD as the **Principal Investigator** of the project.

A Coordinator from NCD unit was appointed to coordinate the survey with the field staff. The MOO/NCD from the relevant district was Coordinating at the district level and supervised the data collection procedure in the district. The relevant MOH was functioning as the Local Coordinator and supervised the data collection procedure for the survey in her/his area.

### **3.9 DATA ENTRY AND STATISTICAL ANALYSIS**

Guidelines of the WHO for data entry and analysis were followed. Data analysis was carried out by the development assistant of the NCD unit of the Ministry of Health who were trained on the statistical data analysis package by the WHO/HQ. The standard WHO software package developed for NCD STEPwise Surveillance (STEPS) data analysis was used.

### **3.10 ETHICAL CONSIDERATIONS**

The following ethical considerations were adhered to.

- Ethical Clearance was obtained from the Ministry of health.
- A standard consent form for the participants was used (Appendix 5).
- Subjects diagnosed to have high blood pressure were referred to the nearest health institute for follow up.
- A leaflet on “Healthy Lifestyle” was given to each subject with advice highlighting risk factors existing in them.
- Participants were reassured that there will be no discrimination for refusal to be enrolled or withdrawal while taking maximum effort to ensure the participation of all those eligible to participate.
- Confidentiality of all data was assured.
- All efforts were taken to adhere to the standard guidelines of the WHO protocol on “STEPwise Approach To NCD Surveillance (STEPS) ”

## 04. RESULTS

### 4.1. Smoking

Table 4.1.1. Smoking Status

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
Non-daily Smoker	431	7.0%	7	0.1%	438	3.5%
Daily Smoker	1,402	22.8%	18	0.3%	1,420	11.5%
Non Smoker	4,307	70.1%	6,236	99.6%	10,543	85.0%
<b>Total</b>	<b>6,140</b>	<b>100.0%</b>	<b>6,261</b>	<b>100.0%</b>	<b>12,401</b>	<b>100.0%</b>

Table 4.1.2. Smokers by Type of the Cigarettes Used Among Daily Smokers

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
Smoke Manufactured Cigarettes	1,202	85.7%	17	94.4%	1,219	85.8%
Doesn't Smoke Manufactured Cigarettes	200	14.3%	1	5.6%	201	14.2%
<b>Total</b>	<b>1,402</b>	<b>100.0%</b>	<b>18</b>	<b>100.0%</b>	<b>1,420</b>	<b>100.0%</b>

Table 4.1.3. Amount of Manufactured Cigarettes Used among Current Daily Smokers

Category	Male	Female	Both Sexes
Mean No. of Manufactured Cigarettes	9.0	13.8	9.2

Table 4.1.4. Initiation and Duration of Smoking among Current Daily Smokers

Category	Male	Female	Both Sexes
Mean Age started smoking (year)	27.6	23.9	27.5
Duration of Smoking (mean years)	16.1	20.1	16.1

## 4.2. Alcohol Consumption

Table 4.2.1. Drinking Status

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
Abstainer	2,881	47.2%	5,856	93.8%	8,737	70.8%
Current Drinker	1,586	26.0%	75	1.2%	1,661	13.5%
Not Current Drinker	1,636	26.8%	312	5.0%	1,948	15.8%
<b>Total</b>	<b>6,103</b>	<b>100.0%</b>	<b>6,243</b>	<b>100.0%</b>	<b>12,346</b>	<b>100.0%</b>

Table 4.2.2. Drinking of Alcohol during the Last Week (among those who drank alcohol in the last 30 days)

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
4 or more days	253	17.4%	1	1.5%	254	16.7%
Less than 4 days	1,200	82.6%	65	98.5%	1,265	83.3%
<b>Total</b>	<b>1,453</b>	<b>100.0%</b>	<b>66</b>	<b>100.0%</b>	<b>1,519</b>	<b>100.0%</b>

Table 4.2.3. No. of Standard Drinks per Day

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
1	893	28.6%	186	50.7%	1,079	31.0%
2 - 3	560	18.0%	66	18.0%	626	18.0%
4 - 5	109	3.5%	6	1.6%	115	3.3%
6+	1,556	49.9%	109	29.7%	1,665	47.8%
<b>Total</b>	<b>3118</b>	<b>100.0%</b>	<b>367</b>	<b>100.0%</b>	<b>3485</b>	<b>100.0%</b>

Table 4.2.4. Mean No. of Drinks per Day

Category	Male	Female	Both Sexes
Mean No. of Drinks	4.8	3.2	4.6

**Table 4.2.5. Frequency of Alcohol Consumption among Drinkers**

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
Less than once a month	1,817	56.2%	376	95.2%	2,193	60.4%
1 - 3 days per month	703	21.7%	13	3.3%	716	19.7%
1 - 4 days per week	321	9.9%	2	0.5%	323	8.9%
5 - 6 days per week	89	2.8%	2	0.5%	91	2.5%
Daily	303	9.4%	2	0.5%	305	8.4%
<b>Total</b>	<b>3,233</b>	<b>100.0%</b>	<b>395</b>	<b>100.0%</b>	<b>3,628</b>	<b>100.0%</b>

### 4.3. Fruit and Vegetable Consumption

**Table 4.3.1. Mean No. of Days Fruits / Vegetables Consumed**

Category	Male	Female	Both Sexes
Mean No. of days fruits consumed	3.6	3.7	3.7
Mean No. of days vegetables consumed	6.6	6.7	6.7

**Table 4.3.2. Mean No. of Servings of Fruits / Vegetables Consumed per Day**

Category	Male	Female	Both Sexes
Mean No. of servings of fruits consumed per day	1.1	1.1	1.1
Mean No. of servings of vegetables consumed per day	2.2	2.2	2.2
Mean No. of servings of fruits & vegetables consumed per day	3.3	3.2	3.2

**Table 4.3.3. No. of Servings of Fruits and Vegetables Consumed per Day**

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
0	144	2.4%	119	1.9%	263	2.2%
1 - 2	3,151	52.3%	3,361	54.7%	6,512	53.5%
3 - 4	1,605	26.7%	1,643	26.7%	3,248	26.7%
5 or more	1,120	18.6%	1,027	16.7%	2,147	17.6%
<b>Total</b>	<b>6,020</b>	<b>100.0%</b>	<b>6,150</b>	<b>100.0%</b>	<b>12,170</b>	<b>100.0%</b>

**Table 4.3.4.**

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
<5 servings of fruits/vegetables per day	4,900	81.4%	5,123	83.3%	10,023	82.4%
5 or more servings of fruits/vegetables per day	1,120	18.6%	1,027	16.7%	2,147	17.6%
<b>Total</b>	<b>6,020</b>	<b>100.0%</b>	<b>6,150</b>	<b>100.0%</b>	<b>12,170</b>	<b>100.0%</b>

## 4.4. Physical Activity

**Table 4.4.1. Levels of Total Physical Activity**

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
High Level	3,730	64.7%	2,515	42.5%	6,245	53.5%
Moderate Level	1,002	17.4%	1,512	25.6%	2,514	21.5%
Low Level	1,033	17.9%	1,888	31.9%	2,921	25.0%
<b>Total</b>	<b>5,765</b>	<b>100.0%</b>	<b>5,915</b>	<b>100.0%</b>	<b>11,680</b>	<b>100.0%</b>

**Table 4.4.2. Total Physical Activity per Day**

Category	Male	Female	Both Sexes
Median time spent in physical activity per day (minutes)	195.0	64.2	118.6

**Table 4.4.3. Percent of Total Physical Activity by Category**

Category	Work	Transport	Recreation
Male	63.5	27.7	8.7
Female	53.7	41.5	4.8
Both Sexes	58.6	34.6	6.7

**Table 4.4.4. Sedentary time**

Category	Male	Female	Both Sexes
Median Sedentary time spent per day (Minutes)	120.0	120.0	120.0

## 4.5. Physical Measurements

**Table 4.5.1. Body Mass Index (BMI)**

Category	Male	Female
Mean Height (cm)	163.5	152.2
Mean Weight (kg)	58.1	52.8
Mean BMI	22.0	23.1

**Table 4.5.2. BMI Classifications**

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
Underweight (<18.5)	1,127	19.1%	854	14.3%	1,981	16.7%
Normal weight (18.5 - 24.9)	3,613	61.3%	3,308	55.3%	6,921	58.3%
Overweight (25 - 29.99)	939	15.9%	1,469	24.6%	2,408	20.3%
Obese (30+)	213	3.6%	351	5.9%	564	4.7%
Overweight (25+)	1,152	19.6%	1,820	30.4%	2,972	25.0%

**Table 4.5.3. Average Waist Circumference**

Category	Male	Female
Average waist circumference (cm)	78.9	77.3

**Table 4.5.4. Mean Blood Pressure**

Category	Male	Female	Both Sexes
Mean Systolic Blood Pressure <i>(excluding those currently on medication for raised BP)</i>	125.4	120.2	122.8
Mean Diastolic Blood Pressure <i>(excluding those currently on medication for raised BP)</i>	72.3	71.7	72.0

Table 4.5.5. Raised Blood Pressure

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
SBP<140 and DBP<90 <i>(excluding those on medication)</i>	4,786	81.5%	5,041	86.4%	9,827	83.9%
SBP>=140 and or DBP>=90 <i>(excluding those on medication)</i>	1,088	18.5%	795	13.6%	1,883	16.1%
<b>Total</b>	<b>5,874</b>	<b>100.0%</b>	<b>5,836</b>	<b>100.0%</b>	<b>11,710</b>	<b>100.0%</b>

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
SBP<160 and DBP<100 <i>(excluding those on medication)</i>	5,632	95.9%	5,609	96.1%	11,241	96.0%
SBP>=160 and or DBP>=100 <i>(excluding those on medication)</i>	242	4.1%	227	3.9%	469	4.0%
<b>Total</b>	<b>5,874</b>	<b>100.0%</b>	<b>5,836</b>	<b>100.0%</b>	<b>11,710</b>	<b>100.0%</b>

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
SBP<140 and DBP<90 <i>(excluding those on medication)</i>	4,786	77.8%	5,041	80.4%	9,827	79.1%
SBP>=140 and or DBP>=90 or <i>currently on medication</i>	1,364	22.2%	1,226	19.6%	2,590	20.9%
<b>Total</b>	<b>6,150</b>	<b>100.0%</b>	<b>6,267</b>	<b>100.0%</b>	<b>12,417</b>	<b>100.0%</b>

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
<b>SBP&lt;160 and DBP&lt;100</b>	5,632	91.6%	5,609	89.5%	11,241	90.5%
<b>SBP&gt;=160 and or DBP&gt;=100 or currently on medication</b>	518	8.4%	658	10.5%	1,176	9.5%
<b>Total</b>	<b>6,150</b>	<b>100.0%</b>	<b>6,267</b>	<b>100.0%</b>	<b>12,417</b>	<b>100.0%</b>

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
<b>Currently on medication for raised BP</b>	276	4.5%	431	6.9%	707	5.7%
<b>Not currently on medication for raised BP</b>	5,874	95.5%	5,836	93.1%	11,710	94.3%
	<b>6,150</b>	<b>100.0%</b>	<b>6,267</b>	<b>100.0%</b>	<b>12,417</b>	<b>100.0%</b>

## 4.6. Raised Risk

### 4.6.1

Category	Male		Female		Both Sexes	
	number	percentage	number	percentage	number	percentage
<b>0 Risk Factors</b>	444	8.2%	390	7.0%	834	7.6%
<b>1 - 3 Risk Factors</b>	4,735	88.0%	4,965	89.8%	9,700	88.9%
<b>4 - 5 Risk Factors</b>	204	3.8%	177	3.2%	381	3.5%
<b>Total</b>	<b>5,383</b>	<b>100.0%</b>	<b>5,532</b>	<b>100.0%</b>	<b>10,915</b>	<b>100.0%</b>

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# **NATIONAL NCD RISK FACTOR SURVEY Instrument**



*Adopted from;*

The WHO STEPwise approach to Surveillance of Noncommunicable diseases (STEPS)

**Non Communicable Disease Unit**  
Ministry of Healthcare and Nutrition  
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## Survey Information

Location and Date		Response	Code
1	District code	_ _ _ _	I1
2	PHM area name		I2
3	PHM area code	_ _ _ _	I3
4	Interviewer Identification	_ _ _ _	I4
5	Date of completion of the instrument	_ _    _ _    _ _ _ _ dd        mm        year	I5

Consent, Interview Language and Name		Response	Code
Participant Id Number    _ _ _ _ _			
6	Consent has been read out to participant	Yes 1 No 2 <b>If NO, read consent</b>	I6
7	Consent has been obtained (verbal or written)	Yes 1 No 2 <b>If NO, END</b>	I7
8	Time of interview (24 hour clock)	_ _ : _ _ hrs        mins	I9
9	Family Name		I10
10	First Name		I11

## Step 1 Demographic Information

CORE: Demographic Information			
Questions	Response		Code
11	Sex ( <i>Record Male / Female as observed</i> )	Male 1 Female 2	C1
12	What is your date of birth? <i>Don't Know 77 777 7777</i>	_ _    _ _    _ _ _ _ <i>If known, go to C4</i> dd        mm        year	C2
13	How old are you?	Years    _ _	C3
14	In total, how many years have you spent at school or in full-time study (excluding pre-school)?	Years    _ _	C4

EXPANDED: Demographic Information		Response	Code
15	What is the highest level of education you have completed?	No formal schooling 1 Less than primary school 2 Primary school completed 3 Secondary school completed 4 College/University completed 5 Post graduate degree 6 Refused 7	C6

## Step 1

## Behavioural Measurements

CORE: Tobacco Use			
Now I am going to ask you some questions about various health behaviours. This includes things like smoking, drinking alcohol, eating fruits and vegetables and physical activity. Let's start with tobacco.			
Questions	Response	Code	
16	Do you currently smoke any <b>tobacco products</b> , such as cigarettes, cigars or pipes?	Yes 1 No 2 <i>If No, go to T6</i>	T1
17	<b>If Yes,</b> Do you currently smoke tobacco products <b>daily</b> ?	Yes 1 No 2 <i>If No, go to T6</i>	T2
18	How old were you when you <b>first started</b> smoking daily?	Age (years) Don't remember 777 <input type="text"/> <i>If Known, go to T5a</i>	T3
19	Do you remember how long ago it was?	In Years <input type="text"/> <i>If Known, go to T5a</i>	T4a
	(RECORD ONLY 1, NOT ALL 3)	OR in Months <input type="text"/> <i>If Known, go to T5a</i>	T4b
	Don't remember 777	OR in Weeks <input type="text"/>	T4c
20	On average, <b>how many</b> of the following do you smoke each day?	Manufactured cigarettes <input type="text"/>	T5a
	(RECORD FOR EACH TYPE)	Hand-rolled cigarettes <input type="text"/>	T5b
	Don't remember 777	Pipes full of tobacco <input type="text"/>	T5c
		Cigars, cheroots, cigarillos <input type="text"/>	T5d
		Other <input type="text"/> <i>If other, go to T5 other</i>	T5e
		Other (please specify): <input type="text"/>	T5other
EXPANDED: Tobacco Use			
Questions	Response	Code	
21	In the past, did you <b>ever</b> smoke <b>daily</b> ?	Yes 1	T6
		No 2	
22			T8a
			T8b
			T8c
23	Do you <b>currently</b> use any <b>smokeless tobacco</b> such as [ <i>snuff, chewing tobacco, betel</i> ]?	Yes 1 No 2	T9
24	<b>If Yes,</b> Do you <b>currently</b> use <b>smokeless tobacco</b> products <b>daily</b> ?	Yes 1 No 2	T10
25	On average, how many <b>times a day</b> do you use ....	Snuff, by mouth <input type="text"/>	T11a
	(RECORD FOR EACH TYPE)	Snuff, by nose <input type="text"/>	T11b
	Don't Know 777	Chewing tobacco <input type="text"/>	T11c
		Betel, quid <input type="text"/>	T11d
		Other <input type="text"/> <i>If Other, go to T11 other</i>	T11e
		Other (specify) <input type="text"/>	T11other

<b>CORE: Alcohol Consumption</b>			
The next questions ask about the consumption of alcohol.			
<b>Questions</b>		<b>Response</b>	<b>Code</b>
26	Have you consumed alcohol (such as beer, wine, spirits, fermented cider or <i>[add other local examples]</i> ) within the <b>past 12 months</b> ? (USE SHOWCARD OR SHOW EXAMPLES)	Yes 1 No 2 <i>If No, go to D1</i>	A1
27	In the past 12 months, <b>how frequently</b> have you had at least one drink? (READ RESPONSES USE SHOWCARD)	Daily 1 5-6 days per week 2 1-4 days per week 3 1-3 days per month 4 Less than once a month 5	A2
28	When you drink alcohol, <b>on average</b> , how many drinks do you have during one day?	Number <input type="text"/> <input type="text"/> <input type="text"/> Don't know 77	A3
29	Have you consumed alcohol (such as beer, wine, spirits, fermented cider or <i>[add other local examples]</i> ) within the <b>past 30 days</b> ? (USE SHOWCARD OR SHOW EXAMPLES)	Yes 1 No 2 <i>If No, go to A 6</i>	A4
30	During each of the <b>past 7 days</b> , how many standard drinks of any alcoholic drink did you have each day?  (RECORD FOR EACH DAY USE SHOWCARD)  Don't Know 77	Monday <input type="text"/> <input type="text"/> <input type="text"/>	A5a
		Tuesday <input type="text"/> <input type="text"/> <input type="text"/>	A5b
		Wednesday <input type="text"/> <input type="text"/> <input type="text"/>	A5c
		Thursday <input type="text"/> <input type="text"/> <input type="text"/>	A5d
		Friday <input type="text"/> <input type="text"/> <input type="text"/>	A5e
		Saturday <input type="text"/> <input type="text"/> <input type="text"/>	A5f
		Sunday <input type="text"/> <input type="text"/> <input type="text"/>	A5g

<b>CORE: Diet</b>			
The next questions ask about the fruits and vegetables that you usually eat. I have a nutrition card here that shows you some examples of local fruits and vegetables. Each picture represents the size of a serving. As you answer these questions please think of a typical week in the last year.			
<b>Questions</b>		<b>Response</b>	<b>Code</b>
31	In a typical week, on how many days do you <b>eat fruit</b> ? (USE SHOWCARD)	Number of days <input type="text"/> <input type="text"/> <input type="text"/> <i>If Zero days, go to D3</i> Don't Know 77	D1
32	How many <b>servings</b> of fruit do you eat on <b>one</b> of those days? (USE SHOWCARD)	Number of servings <input type="text"/> <input type="text"/> <input type="text"/> Don't Know 77	D2
33	In a typical week, on how many days do you <b>eat vegetables</b> ? (USE SHOWCARD)	Number of days <input type="text"/> <input type="text"/> <input type="text"/> <i>If Zero days, go to D5</i> Don't Know 77	D3
34	How many <b>servings</b> of vegetables do you eat on one of those days? (USE SHOWCARD)	Number of servings <input type="text"/> <input type="text"/> <input type="text"/> Don't Know 77	D4
<b>OPTIONAL: Diet</b>			
35	In a typical week, on how many days do you <b>eat green leafy vegetables</b> ? (USE SHOWCARD)	Number of days <input type="text"/> <input type="text"/> <input type="text"/> <i>If Zero days, go to P1</i> Don't Know 77	D6
36	How many <b>servings</b> of green leafy vegetables do you eat on one of those days? (USE SHOWCARD)	Number of servings <input type="text"/> <input type="text"/> <input type="text"/> Don't Know 77	D6

## CORE: Physical Activity

Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing or hunting for food, seeking employment. *[Insert other examples if needed]*. In answering the following questions 'vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.

Questions	Response	Code
<b>Activity at work</b>		
37	Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like <i>[carrying or lifting heavy loads, digging or construction work]</i> for at least 10 minutes continuously? <i>[INSERT EXAMPLES] (USE SHOWCARD)</i>	Yes 1 No 2 <i>If No, go to P 4</i> P1
38	In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days <input type="text"/> P2
39	How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins P3 (a-b)
40	Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking <i>[or carrying light loads]</i> for at least 10 minutes continuously? <i>[INSERT EXAMPLES] (USE SHOWCARD)</i>	Yes 1 No 2 <i>If No, go to P 7</i> P4
41	In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days <input type="text"/> P5
42	How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins P6 (a-b)
<b>Travel to and from places</b>		
The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship. <i>[insert other examples if needed]</i>		
43	Do you walk or use a bicycle ( <i>pedal cycle</i> ) for at least 10 minutes continuously to get to and from places?	Yes 1 No 2 <i>If No, go to P 10</i> P7
44	In a typical week, on how many days do you walk or bicycle for at least 10 minutes continuously to get to and from places?	Number of days <input type="text"/> P8
45	How much time do you spend walking or bicycling for travel on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins P9 (a-b)
<b>Recreational activities</b>		
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities ( <i>leisure</i> ), <i>[insert relevant terms]</i> .		
46	Do you do any vigorous-intensity sports, fitness or recreational ( <i>leisure</i> ) activities that cause large increases in breathing or heart rate like <i>[running or football,]</i> for at least 10 minutes continuously? <i>[INSERT EXAMPLES] (USE SHOWCARD)</i>	Yes 1 No 2 <i>If No, go to P 13</i> P10
47	In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational ( <i>leisure</i> ) activities?	Number of days <input type="text"/> P11
48	How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?	Hours : minutes <input type="text"/> : <input type="text"/> hrs mins P12 (a-b)

CORE: Physical Activity (recreational activities) contd.		
Questions	Response	Code
49	<p>Do you do any moderate-intensity sports, fitness or recreational (<i>leisure</i>) activities that causes a small increase in breathing or heart rate such as brisk walking, (<i>cycling, swimming, volleyball</i>) for at least 10 minutes continuously?  <i>[INSERT EXAMPLES] (USE SHOWCARD)</i></p> <p>Yes 1</p> <p>No 2 <i>If No, go to P16</i></p>	P13
50	<p>In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational (<i>leisure</i>) activities?</p> <p>Number of days <input type="text"/></p>	P14
51	<p>How much time do you spend doing moderate-intensity sports, fitness or recreational (<i>leisure</i>) activities on a typical day?</p> <p>Hours : minutes <input type="text"/> : <input type="text"/>            hrs                      mins</p>	P15 (a-b)
<b>Sedentary behaviour</b>		
<p>The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent [sitting at a desk, sitting with friends, travelling in car, bus, train, reading, playing cards or watching television], but do not include time spent sleeping.  <i>[INSERT EXAMPLES] (USE SHOWCARD)</i></p>		
52	<p>How much time do you usually spend sitting or reclining on a typical day?</p> <p>Hours : minutes <input type="text"/> : <input type="text"/>            hrs                      min s</p>	P16 (a-b)

OPTIONAL: Physical Activity		
53	<p>How much time do you usually spend watching television on a typical day?</p> <p>Hours : minutes <input type="text"/> : <input type="text"/>            hrs                      min s</p>	P17 (a-b)

*Thank you for your participation*

## Step 2 Physical Measurements

CORE: Height and Weight		Response	Code
54	Interviewer ID	_____	M1
55	Device IDs for height and weight	Height _____	M2a
		Weight _____	M2b
56	Height	in Centimetres (cm) _____	M3
57	Weight <i>If too large for scale, code 666.6</i>	in Kilograms (kg) _____	M4
58	<i>(For women)</i> Are you pregnant?	Yes 1 <i>If Yes, go to M 8</i>	M5
		No 2	
CORE: Waist			
59	Device ID for waist	_____	M6
60	Waist circumference	in Centimetres (cm) _____	M7
CORE: Blood Pressure			
61	Interviewer ID	_____	M8
62	Device ID for blood pressure	_____	M9
63	Cuff size used	Small 1	M10
		Medium 2	
		Large 3	
64	Reading 1	Systolic ( mmHg) _____	M11a
		Diastolic (mmHg) _____	M11b
65	Reading 2	Systolic ( mmHg) _____	M12a
		Diastolic (mmHg) _____	M12b
66	Reading 3	Systolic ( mmHg) _____	M13a
		Diastolic (mmHg) _____	M13b
67	During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?	Yes 1	M14
		No 2	

EXPANDED: Hip Circumference and Heart Rate			
68	Hip circumference	in Centimetres (cm) _____	M15
69	Heart Rate (Record if automatic blood pressure device is used)		
	Reading 1	Beats per minute _____	M16a
	Reading 2	Beats per minute _____	M16b
	Reading 3	Beats per minute _____	M16c

## බෝ නොවන රෝගවලට බලපාන ප්‍රධාන අවධානම් සාධක සමීක්ෂණය

සෞඛ්‍ය අමාත්‍යාංශය විසින් ජනතාව බෝනොවන රෝගවලින් ඇත්කර  
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කිරීමට උදව්වන මේ වටිනා කාර්යයට ඔබ උදව්වීම පිළිබඳව අප ඉතා  
අගය කරනවා. කෙසේ නමුත් ඔබ අකමැති නම් මෙයින් වැළකී සිටීමට  
ඔබට පුළුවන්.

මෙහිදී ඔබ ප්‍රකාශ කරන කරුණු රහසිගතව තබා ගන්නා අතර ,  
ඔබගේ නම කිසිම වාර්තාවක සඳහන් නොවන බව අප අවධාරණය කර  
සිටිනවා.

### කැමැත්ත පළ කිරීමේ ප්‍රකාශය.

මා විසින් ඉහත කරුණු කියවා බලන ලදී. සමීක්ෂණයේ කරුණු  
පිළිබඳ දැනුවත් වූනෙමි. මෙම සමීක්ෂණයට සහභාගිවීමට කැමැත්ත පළ  
කරමි.

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# REFERRAL CARD

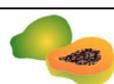
		<input type="checkbox"/>					
<b>National NCD Risk Factor Survey</b>							
<b>SBP (mm Hg)</b>				<b>DBP (mm Hg)</b>			
1.	_____	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____	_____
<b>Referred by :</b> _____				<b>Clinic :</b> _____			
<b>Date :</b> _____				<b>Time :</b> _____			
<b>Referred to : MO / OPD</b>							
<b>GH / BH / DH / RH / PU / CD</b> _____							

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		<input type="checkbox"/>					
<b>National NCD Risk Factor Survey</b>							
<b>SBP (mm Hg)</b>				<b>DBP (mm Hg)</b>			
1.	_____	_____	_____	_____	_____	_____	_____
2.	_____	_____	_____	_____	_____	_____	_____
3.	_____	_____	_____	_____	_____	_____	_____
<b>Referred by :</b> _____				<b>Clinic :</b> _____			
<b>Date :</b> _____				<b>Time :</b> _____			
<b>Referred to : MO / OPD</b>							
<b>GH / BH / DH / RH / PU / CD</b> _____							

## Diet (Typical Fruit and Vegetables and Serving Sizes)

Vegetables Are considered to be:	1 Serving =	Examples
Raw green leafy vegetables	1 cup	<i>Spinach,</i> <i>Salad, etc...</i> 
Other vegetables, cooked or chopped raw	½ cup	<i>Tomato,</i> <i>Carrots,</i> <i>Brinjals,</i> <i>Beans,</i> <i>Bitter gourd, etc...</i> 

Fruits Is considered to be:	1 Serving =	Examples
<i>Apple, Banana, Orange, Mango</i>	1 medium size	
<i>Melon</i>	half (1/2) of medium	
<i>Papaya</i>	¼ of medium size	
<i>Avocado</i>	quarter (1/4) of medium size	
<i>Pineapple</i>	2 slices	
<i>Grapes</i>	1 ½ cup	

## Physical Activity

<b>MODERATE Physical Activities</b>	<b>VIGOROUS Physical Activities</b>
Involve moderate physical effort for at least 10 minutes continuously	Involve hard physical effort for at least 10 minutes continuously
This make you breathe somewhat harder than normal	This makes you breathe much harder than normal
<p><b>Examples:</b></p> <p><b><u>Work related</u></b></p> <ul style="list-style-type: none"> <li>• Cleaning</li> <li>• Farming</li> <li>• Washing</li> <li>• Painting/plastering</li> <li>• Gardening</li> <li>• Milking cows (by hand)</li> <li>• Weaving</li> <li>• Mixing cements (with shovel)</li> <li>• Labouring (e.g. pushing loaded wheelbarrow)</li> <li>• Drawing water</li> <li>• Tending animals</li> <li>• Climbing stairs</li> </ul> <p><b><u>Leisure / Spare time</u></b></p> <ul style="list-style-type: none"> <li>• Cycling</li> <li>• Dancing</li> <li>• Aerobics</li> <li>• Swimming</li> <li>• Brisk walking</li> <li>• Jogging</li> </ul>	<p><b>Examples:</b></p> <p><b><u>Work related</u></b></p> <ul style="list-style-type: none"> <li>• Carrying heavy loads</li> <li>• Heavy construction</li> <li>• Digging</li> <li>• Forestry</li> <li>• Ploughing</li> <li>• Shovelling</li> <li>• Sawing wood</li> </ul> <p><b><u>Leisure / Spare time</u></b></p> <ul style="list-style-type: none"> <li>• Running</li> <li>• Strenuous sports</li> <li>• Weight lifting</li> </ul>

## Alcohol Consumption

**1 standard drink =**

- 1 standard bottle of regular beer (285ml)



- 1 single measure of spirits (30ml)



- 1 medium size of glass of wine (120ml)



- 1 measure of aperitif (30ml)



- 1 medium size coconut shell of toddy (160ml)



### ALCOHOL EQUIVALENTS

#### ***Wine:***

1 GLASS OF WINE

1 Drink

1 BOTTLE OF WINE

6 Drinks

1 "WINE COOLER"

1 Drink

#### ***Beer:***

1 SMALL BOTTLE / CAN OF BEER

1 Drink

1 CASE OF BEER

6/12/24 Drinks

#### ***Hard Liquor:***

1 HIGHBALL OR SHORT GLASS

1 Drink

1/2 PINT OF LIQUOR (කලක්)

6 Drinks

1 PINT OF LIQUOR

12 Drinks