

Ministry of Health
Republic of Botswana



World Health Organization

REPUBLIC OF BOTSWANA

CHRONIC DISEASE RISK FACTOR SURVEILLANCE

REPORT

2007

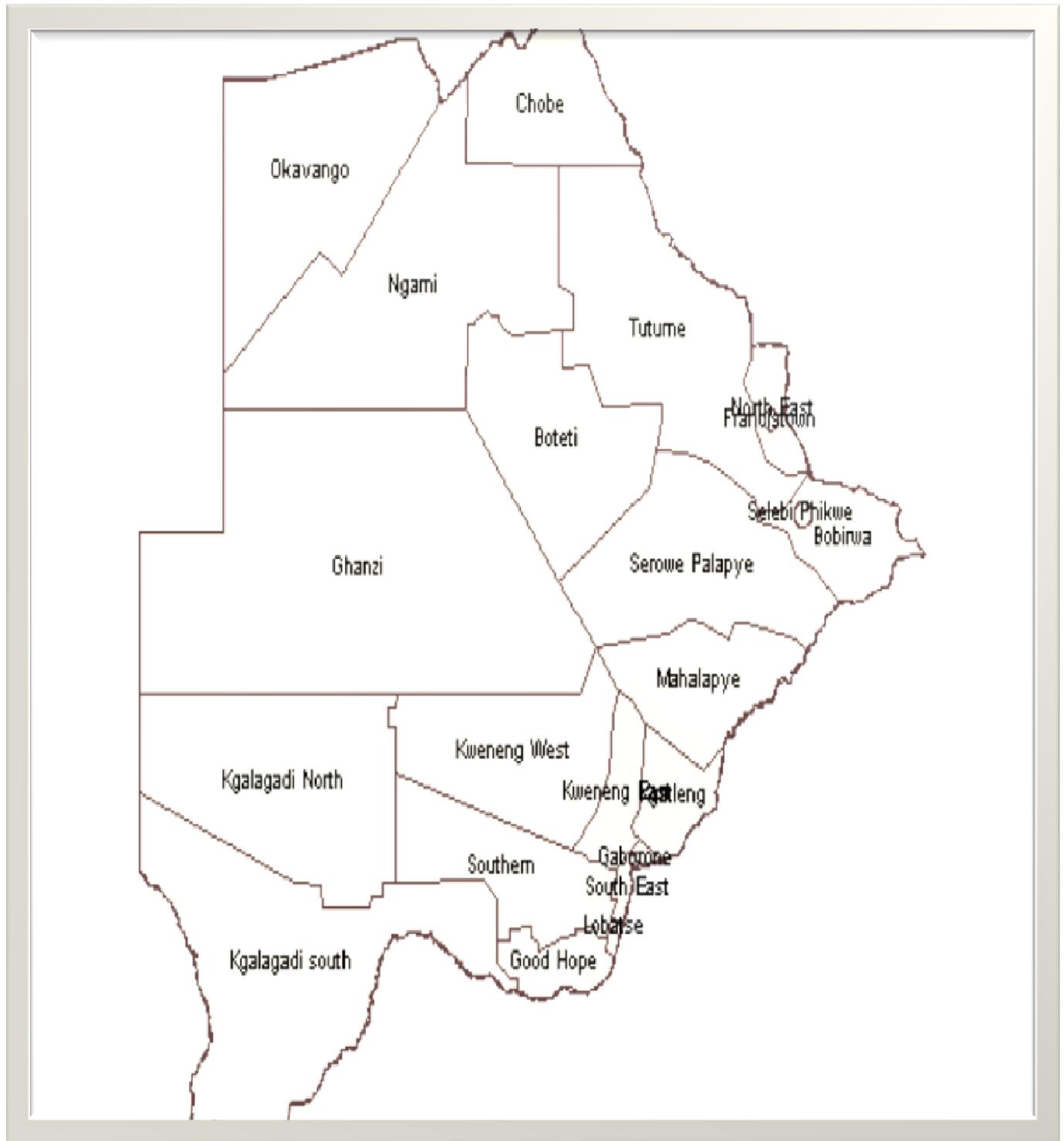


Figure 1 Map of Botswana

ABSTRACT

Botswana as a developing country is experiencing the emergence of non-communicable diseases which will impact on its development. If risk factors leading to chronic diseases are not identified and sustainable measures are not put in place it can have far reaching consequences. Therefore there is a need to establish baseline data on risk factors, develop guidelines, lay strategic plans and appropriate public health measures in the prevention and control of non-communicable diseases. This necessitated embarking the STEPS survey of chronic diseases risk factors.

Using the WHO STEPwise approach to surveillance, Botswana carried out STEP 1, which deals with demographic and behavioural aspects, and STEP 2, which deals with physical measurement of height, weight, waist and hip; blood pressure, and pulse rate. The survey was conducted from March to May 2007 in collaboration with the Ministry of Local Government in 8 selected districts. The Botswana STEPS survey was a population based survey of adults aged 25-64. A multi-stage cluster sample design was used to arrive at a representative sample for the whole population. The response rate was very high and a total of 4003 people participated in the survey.

The major risk factors associated with non-communicable diseases that we included in the survey were tobacco, alcohol, eating fruits and vegetables, physical activity, blood pressure and BMI.

The results indicate that:

- Among the entire population, 19.7% currently smoke. The average age of initiation of daily smoking for the general population was 23.6 years. On average, males started at an earlier age (21.8 years), while females started at a later age (31.8 years).
- The percentage of current drinkers who engaged in binge drinking in the previous week was high and was roughly the same in the male and female population (54.1% and 51.8% respectively).
- Overall, the population consumes an average of only 1.0 serving of fruit and 3.4 servings of vegetables per day. In general 96.6% of all respondents ate less than 5 servings of fruits and/or vegetables on average per day.
- The percentage of the population with low levels of physical activity was 34.7% (26.7% males, 41.7% females) and those who are not engaged in vigorous physical activity for both sexes was 72.7% (59.5% males, 84.2% females). The percentage of inactivity was significantly higher in females.
- Over one-third of the total population is overweight (38.6%), with the prevalence being significantly higher in women (53.4%) than men (22.1%).
- The percentage of people with raised blood pressure is 33.1%, with the percentage among women (37.0%) being significantly greater than among men (28.8%).

The following risk factors present in respondents were combined to label someone as **having a greater risk** of developing any type of non-communicable diseases any time.

- i. Currently daily smokers
- ii. Less than 5 servings of fruits and / or vegetables on average per day
- iii. Low level of physical activity
- iv. Overweight (BMI $\geq 25\text{kg/m}^2$)
- v. Raised BP (SBP ≥ 140 and or DBP ≥ 90 mmHg or currently on medication for raised BP)

The percentage with none of the stated risk factors was 1.2% (1.9% for males and 0.5% females). The percentage of respondents with at least three of the risk factors was 34.5% (24.1% males, 43.2% females).

Waist-hip ratio is also an index used to predict the development of a cardiac problem. Waist and hip measurements were taken - Waist at the widest part and hip at the narrowest part and expressed as ratio (waist measurement divided by hip measurement). The normal range of Waist-Hip Ratio for men is less than 1.0 and less than 0.8 for women in healthy individuals.

The Botswana STEPS survey identified the problem of smoking, alcohol consumption, limited physical activity (especially in females) and less consumption of fruits and vegetables in the general population. It also revealed that overweight and raised blood pressure was unusually high among females. Chronic diseases like diabetes have shown an increasing trend along all ages, mostly pronounced again in the female population. Unveiling the prevalence of non-communicable disease risk factors and forwarding recommendations to government will assist to formulate policy guidelines in the prevention and control of chronic diseases in the country.

ACKNOWLEDGEMENT

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Of at most importance are community members and participants from survey areas whom we honour very much for sparing their precious time and accepting us to interview and assess them for long hours.

Departments in the Ministries, NGOs, Private institutions, community members, individuals were eager to see the STEPS survey started, data collected, analyzed and results out. We are grateful for their encouragement and support. Now the data is available and can be utilized in improving the wellbeing of this Nation.

TABLE OF CONTENTS

ABSTRACT	3
ACKNOWLEDGEMENT	5
STEPS LOGO	13
MAJOR RISK FACTORS FOR NON-COMMUNICABLE DISEASES	14
INTRODUCTION.....	15
RATIONALE FOR SURVEILLANCE OF NON-COMMUNICABLE DISEASES	17
OBJECTIVES OF THE STEPS SURVEY.....	17
STEPS QUESTIONNAIRE	18
METHODOLOGY.....	19
CLUSTERS.....	20
PREPARATION FOR DATA ANALYSIS.....	22
RISK FACTORS & CORE INDICATORS.....	25
SAMPLING AND RESPONSE PROPORTIONS	32
DEMOGRAPHIC INFORMATION	33
MEAN PER CAPITA HOUSEHOLD ANNUAL INCOME.....	45
ESTIMATED HOUSEHOLD EARNINGS.....	45
TOBACCO USE.....	47
ALCOHOL CONSUMPTION	68
HAZARDOUS AND HARMFUL DRINKING.....	78
FRUIT AND VEGETABLE CONSUMPTION	83
PHYSICAL ACTIVITY.....	91
HISTORY OF BLOOD PRESSURE AND DIABETES.....	105
PHYSICAL MEASUREMENTS	116
BODY MASS INDEX (BMI)	117
WAIST- HIP Ratio	125
BLOOD PRESSURE AND HEART BEAT.....	126
RAISED RISK	136
DISCUSSIONS	138
RECOMMENDATIONS	140
REFERENCES	142

TABLE 1 LIST OF CLUSTERS (URBAN AND RURAL).....	20
TABLE 2 LIST OF RISK FACTORS.....	25
TABLE 3 NUMBER OF SAMPLED DISTRICTS.....	26
TABLE 4 POPULATION BY AGE GROUP	26
TABLE 5 SAMPLED POPULATION	27
TABLE 6 SUMMARY OF SAMPLED AREAS	28
TABLE 7 DISTRICT POP. BY AGE.....	31
TABLE 8 RESPONSE PROPORTIONS.....	32
TABLE 9 RESPONDENTS	33
TABLE 10 ETHNIC GROUPS.....	34
TABLE 11 YEARS OF EDUCATION	34
TABLE 12 LEVEL OF EDUCATION - MALE.....	35
TABLE 13 LEVEL OF EDUCATION - FEMALE	36
TABLE 14 LEVEL OF EDUCATION - BOTH.....	37
TABLE 15 EMPLOYMENT STATUS - MALES	39
TABLE 16 EMPLOYMENT STATUS - FEMALES.....	40
TABLE 17 EMPLOYMENT STATUS BOTH SEXES	41
TABLE 18 UNPAID WORK - MALES.....	42
TABLE 19 UNPAID WORK - FEMALES	43
TABLE 20 UNPAID WORK - BOTH SEXES	44
TABLE 21 HOUSEHOLD EARNINGS.....	46
TABLE 22 CURRENT SMOKERS	47
TABLE 23 SMOKING STATUS - MALES.....	48
TABLE 24 SMOKING STATUS - FEMALES.....	49
TABLE 25 SMOKING STATUS - BOTH SEXES	50
TABLE 26 FREQUENCY OF SMOKING	51
TABLE 27 MANUFACTURED CIG. SMOKERS.....	52
TABLE 28 MEAN TOBACCO USED - MALES	53
TABLE 29 MEAN TOBACCO USED - FEMALES.....	54
TABLE 30 MEAN TOBACCO USED - BOTH SEXES.....	55
TABLE 31 AGE OF INITIATION	56
TABLE 32 DURATION OF SMOKING	57
TABLE 33 EX-DAILY SMOKERS.....	58
TABLE 34 YEARS SINCE CESSATION.....	58
TABLE 35 USERS OF SMOKELESS TOBACCO.....	59
TABLE 36 SMOKELESS TOBACCO USE - MALES	61
TABLE 37 SMOKELESS TOBACCO USE - FEMALES	62
TABLE 38 SMOKELESS TOBACCO USE - BOTH SEXES	63
TABLE 39 EX-DAILY SMOKELESS TOBACCO USERS.....	63
TABLE 40 SMOKELESS TOBACCO BY TYPE - MALES	64
TABLE 41 SMOKELESS TOBACCO BY TYPE - FEMALES.....	64
TABLE 42 SMOKELESS TOBACCO BY TYPE - BOTH SEXES.....	65
TABLE 43 DAILY TOBACCO USERS.....	66
TABLE 44 TOBACCO USERS - DAILY OR NONDAILY	67
TABLE 45 ALCOHOL CONSUMPTION - MALES.....	68
TABLE 46 ALCOHOL CONSUMPTION - FEMALES.....	69
TABLE 47 ALCOHOL CONSUMPTION - BOTH SEXES	70
TABLE 48 FREQ. OF ALCOHOL CONSUMPTION - MALES.....	70
TABLE 49 FREQ. ALCOHOL CONSUMPTION - FEMALES	71
TABLE 50 FREQ. ALCOHOL CONSUMPTION - BOTH SEXES	72
TABLE 51 NO. OF STANDARD DRINKS CONSUMED - MALES	73
TABLE 52 NO. OF STANDARD DRINKS CONSUMED - FEMALES.....	73

TABLE 53 NO. OF STANDARD DRINKS CONSUMED - BOTH SEXES.....	74
TABLE 54 FREQ. OF DRINKS CONSUMED - MALES.....	75
TABLE 55 FREQ. OF DRINKS CONSUMED - FEMALES.....	76
TABLE 56 FREQ. OF DRINKS CONSUMED - BOTH SEXES.....	77
TABLE 57 CLASSIFICATION OF ALCOHOLIC DRINK.....	78
TABLE 58 HARMFUL DRINKING - MALES.....	79
TABLE 59 HARMFUL DRINKING - FEMALES.....	80
TABLE 60 MAXIMUM NUMBER OF DRINKS CONSUMED.....	80
TABLE 61 NUMBER OF DRINKS IN A DAY - MALES.....	81
TABLE 62 NUMBER OF DRINKS IN A DAY - FEMALES.....	81
TABLE 63 NO. OF DAYS FRUIT CONSUMED.....	83
TABLE 64 NO. OF SERVINGS OF FRUIT.....	84
TABLE 65 NO. OF DAYS VEGETABLES CONSUMED.....	85
TABLE 66 NO. OF SERVINGS OF VEGETABLES.....	85
TABLE 67 NO. OF SERVINGS FRUIT/VEGETABLES.....	86
TABLE 68 NO. OF SERVINGS FRUITS/VEGETABLES - MALES.....	87
TABLE 69 NO. OF SERVINGS FRUITS/VEGETABLES - FEMALES.....	88
TABLE 70 NO. OF SERVINGS FRUITS/VEGETABLES -BOTH SEXES.....	88
TABLE 71 CONSUMED LESS THAN 5 SERVINGS FRUIT/VEGETABLES.....	89
TABLE 72 TYPE OF FAT USED FOR COOKING.....	90
TABLE 73 LEVEL OF PHYSICAL ACTIVITY MALES.....	91
TABLE 74 LEVEL OF PHYSICAL ACTIVITY FEMALES.....	92
TABLE 75 LEVEL OF PHYSICAL ACTIVITY - BOTH SEXES.....	92
TABLE 76 MEAN MINUTES OF TOTAL PHYSICAL ACTIVITY.....	93
TABLE 77 MEDIAN MINUTES OF PHYSICAL ACTIVITY.....	94
TABLE 78 MEAN MINUTES OF WORK RELATED.....	95
TABLE 79 MEAN MINUTES OF TRANSPORT RELATED.....	95
TABLE 80 MEAN MINUTES RECREATION RELATED.....	95
TABLE 81 MEDIAN MINUTES OF WORK-RELATED.....	96
TABLE 82 MEDIAN MINUTES OF TRANSPORT-RELATED.....	96
TABLE 83 MEDIAN MINUTES OF RECREATION-RELATED.....	97
TABLE 84 NO WORK-RELATED PHYSICAL ACTIVITY.....	97
TABLE 85 NO TRANSPORT-RELATED ACTIVITY.....	98
TABLE 86 NO RECREATION-RELATED ACTIVITY.....	98
TABLE 87 COMPOSITION OF TOTAL PHYSICAL ACTIVITY M- MALES.....	99
TABLE 88 COMPOSITION OF TOTAL PHYSICAL ACTIVITY - FEMALES.....	100
TABLE 89 COMPOSITION OF TOTAL PHYSICAL ACTIVITY - BOTH SEXES.....	100
TABLE 90 NO VIGOROUS PHYSICAL ACTIVITY.....	101
TABLE 91 NO VIGOROUS PHYSICAL ACTIVITY – MALES.....	102
TABLE 92 NO VIGOROUS PHYSICAL ACTIVITY - FEMALES.....	103
TABLE 93 MINUTES SPENT ON SEDENTARY ACTIVITY.....	104
TABLE 94 DIAGNOSED BY HEALTH WORKER.....	105
TABLE 95 TAKING BP DRUGS PRESCRIBED BY HEALTH WORKER.....	105
TABLE 96 ADVISED BY HEALTH WORKER ON DIET.....	106
TABLE 97 ADVISED BY HEALTH WORKER TO LOSE WEIGHT.....	106
TABLE 98 ADVISED BY HEALTH WORKER TO STOP SMOKING.....	107
TABLE 99 ADVISED BY HEALTH WORKER TO DO EXERCISE.....	107
TABLE 100 SEEN A TRADITIONAL HEALER.....	108
TABLE 101 TAKING HERBAL REMEDY FOR BP.....	110
TABLE 102 DIABETES DIAGNOSED BY HEALTH WORKER.....	110
TABLE 103 TAKING INSULIN FOR DIABETES.....	111
TABLE 104 TAKING ORAL DRUGS FOR DIABETES.....	112
TABLE 105 ADVISED BY A DOCTOR FOR DIABETES DIET.....	113
TABLE 106 ADVISED BY HEALTH WORKER TO LOSE WEIGHT.....	113

TABLE 107 ADVISED BY HEALTH WORKER TO STOP SMOKING	114
TABLE 108 ADVISED BY HEALTH WORKER TO EXERCISE.....	114
TABLE 109 SEEN A TRADITIONAL HEALER FOR DIABETES - STEPS 2007	115
TABLE 110 TAKING HERBAL TREATMENT FOR DIABETES	115
TABLE 111 MEAN HEIGHT.....	116
TABLE 112 MEAN WEIGHT.....	116
TABLE 113 CLASSIFICATION OF BODY MASS INDEX.....	118
TABLE 114 MEAN BODY MASS INDEX.....	118
TABLE 115 BMI OF MALES	121
TABLE 116 BMI OF FEMALES.....	122
TABLE 117 BMI OF BOTH SEXES.....	122
TABLE 118 WAIST CIRCUMFERENCE	123
TABLE 119 HIP CIRCUMFERENCE	124
TABLE 120 WAIST-HIP RATIO	125
TABLE 121 MEAN SYSTOLIC BP	126
TABLE 122 MEAN DIASTOLIC BP	126
TABLE 123 SBP AND DBP ABOVE NORMAL.....	127
TABLE 124 RAISED SBP, DBP AND ON BP MEDICATION.....	128
TABLE 125 CURRENTLY ON BP MEDICATION.....	129
TABLE 126 SBP AND OR DBP VERY HIGH	130
TABLE 127 SBP AND OR DBP VERY HIGH & ON MEDICATION	131
TABLE 128 MEAN HEART BEATS	132
TABLE 129 HEART BEAT OVER 100	133
TABLE 130 PERCENT WITH RISK FACTORS - MALES.....	136
TABLE 131 PERCENT WITH RISK FACTORS - FEMALES	136
TABLE 132 PERCENT WITH RISK FACTORS – BOTH SEXES.....	136
FIGURE 1 MAP OF BOTSWANA	2
FIGURE 2 - STEPS LADDER/PROCESS.....	13
FIGURE 3 - MAJOR RISK FACTORS FOR NCDs	14
FIGURE 4 POPULATION OF SAMPLED DISTRICTS.....	27
FIGURE 5 POPULATION OF TARGET AGE GROUPS.....	28
FIGURE 6 ENUMERATION AREAS AND SAMPLES TAKEN - STEPS 2007.....	29
FIGURE 7 PROPORTION OF SAMPLES TAKEN - STEPS 2007	30
FIGURE 8 PARTICIPANTS OF STEPS SURVEY 2007.....	32
FIGURE 9 - NUMBER OF PARTICIPANTS - STEPS SURVEY 2007.....	33
FIGURE 10 ETHNIC GROUPS OF PARTICIPANTS - STEPS SURVEY 2007	34
FIGURE 11 - MEAN NUMBER OF YEARS OF EDUC. - STEPS SURVEY 2007.....	35
FIGURE 12 - HIGHEST LEVEL OF EDUC. COMPLETED - STEPS SURVEY 2007	36
FIGURE 13 - HIGHEST LEVEL OF EDUC. IN FEMALES - STEPS 2007.....	37
FIGURE 14 - HIGHEST LEVEL OF EDUC. BY AGE RANGE - STEPS 2007	38
FIGURE 15 - EMPLOYMENT STATUS IN MALES - STEPS 2007	39
FIGURE 16 - EMPLOYMENT STATUS IN FEMALES - STEPS 2007.....	40
FIGURE 17 - EMPLOYMENT STATUS IN BOTH SEXES - STEPS 2007	41
FIGURE 18 -UNPAID & UNEMPLOYED MALES - STEPS 2007.....	42
FIGURE 19 UNPAID & UNEMPLOYED FEMALES - STEPS 2007	43
FIGURE 20 UNPAID AND UNEMPLOYED OF BOTH SEXES - STEPS 2007.....	44
FIGURE 21 UNPAID WORK, BOTH SEXES - STEPS 2007	45
FIGURE 22 ESTIMATED HOUSEHOLD EARNINGS - STEPS 2007.....	46
FIGURE 23 CURRENT SMOKERS - STEPS 2007.....	47
FIGURE 24 SMOKING STATUS OF MALES - STEPS 2007	48
FIGURE 25 - SMOKING STATUS OF FEMALES - STEPS 2007	49
FIGURE 26 - SMOKING STATUS OF BOTH SEXES - STEPS 2007.....	50

FIGURE 27 PERCENTAGE OF DAILY SMOKERS - STEPS 2007	51
FIGURE 28 MANUFACTURED CIGARETTE SMOKERS - STEPS 2007	52
FIGURE 29 MEAN NUMBER TOBACCO USED BY TYPE – MALES -STEPS 2007	53
FIGURE 30 MEAN NUMBER TOBACCO USED - FEMALES - STEPS 2007	54
FIGURE 31 MEAN TOBACCO USE - BOTH SEXES - STEPS 2007	55
FIGURE 32 - AGE STARTED SMOKING - STEPS 2007	56
FIGURE 33 MEAN DURATION OF SMOKING - STEPS 2007	57
FIGURE 34 EX-DAILY SMOKERS - STEPS 2007	58
FIGURE 35 MEAN YEARS SINCE CESSATION OF SMOKING - STEPS 2007	59
FIGURE 36 USERS OF SMOKELESS TOBACCO - STEPS 2007	60
FIGURE 37 SMOKELESS TOBACCO USERS BY SEX & AGE GROUP -- STEPS 2007	60
FIGURE 38 SMOKELESS TOBACCO USE IN MALES - STEPS 2007	61
FIGURE 39 SMOKELESS TOBACCO USE IN FEMALES- STEPS 2007	62
FIGURE 40 SMOKELESS TOBACCO USE IN BOTH SEXES - STEPS 2007	63
FIGURE 41 EX-DAILY SMOKELESS TOBACCO USERS - STEPS 2007	64
FIGURE 42 MEAN TIMES SMOKELESS TOBACCO USED - STEPS 2007	65
FIGURE 43 CURRENT DAILY TOBACCO USERS - STEPS 2007	66
FIGURE 44 CURRENT TOBACCO USERS - STEPS 2007	67
FIGURE 45 ALCOHOL CONSUMPTION STATUS IN MALES & FEMALES- STEPS 2007	68
FIGURE 46 ALCOHOL CONSUMPTION STATUS IN FEMALES - STEPS 2007	69
FIGURE 47 ALCOHOL CONSUMPTION STATUS IN BOTH SEXES - STEPS 2007	70
FIGURE 48 FREQUENCY OF ALCOHOL CONSUMPTION - STEPS 2007	71
FIGURE 49 FREQUENCY OF ALCOHOL CONSUMPTION BOTH SEXES - STEPS 2007	72
FIGURE 50 STANDARD DRINKS CONSUMED - STEPS 2007	73
FIGURE 51 STANDARD DRINKS CONSUMED BOTH SEXES - STEPS 2007	75
FIGURE 52 FREQUENCY & QUANTITY OF DRINKS BY MALES - STEPS 2007	76
FIGURE 53 FREQUENCY OF DRINKS CONSUMED BY FEMALES- STEPS 2007	77
FIGURE 54 FREQUENCY OF DRINKS CONSUMED BY BOTH SEXES - STEPS 2007	78
FIGURE 55 HARMFUL DRINKS BY MALES - STEPS 2007	79
FIGURE 56 HARMFUL DRINKS BY FEMALES - STEPS 2007	80
FIGURE 57 MEAN MAXIMUM NUMBER OF DRINKS BY BOTH SEXES - STEPS 2007	81
FIGURE 58 MEAN NUMBER OF DRINKS TAKEN - STEPS 2007	82
FIGURE 59 MEAN NUMBER OF DAYS FRUITS CONSUMED - STEPS 2007	83
FIGURE 60 MEAN NUMBER OF SERVINGS OF FRUIT - STEPS 2007	84
FIGURE 61 MEAN NUMBER OF DAYS VEGETABLES CONSUMED - STEPS 2007	85
FIGURE 62 MEAN NUMBER OF SERVINGS OF VEGETABLES - STEPS 2007	86
FIGURE 63 MEAN NUMBER OF SERVINGS FRUIT/VEGETABLES - STEPS 2007	87
FIGURE 64 NUMBER OF SERVINGS FRUIT/VEGETABLES - STEPS 2007	88
FIGURE 65 AVERAGE SERVINGS OF FRUIT/VEGETABLES - STEPS 2007	89
FIGURE 66 LESS THAN 5 SERVINGS OF FRUIT/VEGETABLES - STEPS 2007	89
FIGURE 67 COOKING OIL USED - STEPS 2007	90
FIGURE 68 LEVEL OF PHYSICAL ACTIVITY BY MALE - STEPS 2007	91
FIGURE 69 LEVEL OF PHYSICAL ACTIVITY BY FEMALES - STEPS 2007	92
FIGURE 70 LEVEL OF PHYSICAL ACTIVITY BY BOTH SEXES - STEPS 2007	93
FIGURE 71 MEAN MINUTES OF PHYSICAL ACTIVITY - STEPS 2007	94
FIGURE 72 MEAN MINUTES OF RELATED PHYSICAL ACTIVITY - STEPS 2007	96
FIGURE 73 MEDIAN MINUTES RELATED TO PHYSICAL ACTIVITY - STEPS 2007	97
FIGURE 74 NO RELATED PHYSICAL ACTIVITY - STEPS 2007	98
FIGURE 75 PHYSICAL ACTIVITY IN MALES - STEPS 2007	99
FIGURE 76 PHYSICAL ACTIVITY IN FEMALES - STEPS 2007	100
FIGURE 77 PHYSICAL ACTIVITY IN BOTH SEXES - STEPS 2007	101
FIGURE 78 NO VIGOROUS PHYSICAL ACTIVITY - STEPS 2007	102
FIGURE 79 MEAN MINUTES SPENT IN SEDENTARY ACTIVITY - STEPS 2007	103
FIGURE 80 MEDIAN MINUTES SPENT ON SEDENTARY ACTIVITY - STEPS 2007	103

FIGURE 81 MINUTES SPENT IN SEDENTARY ACTIVITY - STEPS 2007.....	104
FIGURE 82 BP DIAGNOSED BY HEALTH WORKER - STEPS 2007.....	105
FIGURE 83 DRUGS PRESCRIBED BY HEALTH WORKERS - STEPS 2007.....	106
FIGURE 84 LIFESTYLE ADVICES GIVEN BY HEALTH WORKER - STEPS 2007.....	108
FIGURE 85 SEEN TRADITIONAL HEALER FOR RAISED BP BAG GRAPH - STEPS 2007.....	109
FIGURE 86 SEEN TRADITIONAL HEALER FOR RAISED BP LINE GRAPH - STEPS 2007.....	109
FIGURE 87 ON TRADITIONAL MEDICINE FOR HIGH BP - STEPS 2007.....	110
FIGURE 88 DIABETES DIAGNOSED BY HEALTH WORKER - STEPS 2007.....	111
FIGURE 89 DIABETES PRESCRIBED INSULIN - STEPS 2007.....	112
FIGURE 90 DIABETES ON ORAL DRUGS - STEPS 2007.....	113
FIGURE 91 LIFESTYLE ADVICE - STEPS 2007.....	114
FIGURE 92 DIABETES ON TRADITIONAL TREATMENT - STEPS 2007.....	115
FIGURE 93 MEAN HEIGHT - STEPS 2007.....	116
FIGURE 94 MEAN HEIGHT - STEPS 2007.....	117
FIGURE 95 BMI OF MALE PARTICIPANTS BY AGE GROUP - STEPS 2007.....	119
FIGURE 96 BMI OF FEMALE PARTICIPANTS BY AGE GROUP - STEPS 2007.....	119
FIGURE 97 AREA GRAPH OF BMI - STEPS 2007.....	121
FIGURE 98 BMI OF ALL RESPONDENTS - STEPS 2007.....	122
FIGURE 99 BMI BY GENDER - STEPS 2007.....	123
FIGURE 100 MEAN WAIST CIRCUMFERENCE - STEPS 2007.....	124
FIGURE 101 MEAN HIP CIRCUMFERENCE - STEPS 2007.....	124
FIGURE 102 WAIST-HIP RATIO - STEPS 2007.....	125
FIGURE 103 MEAN SYSTOLIC BLOOD PRESSURE - STEPS 2007.....	126
FIGURE 104 MEAN DIASTOLIC BLOOD PRESSURE - STEPS 2007.....	127
FIGURE 105 RAISED BLOOD PRESSURE - STEPS 2007.....	128
FIGURE 106 RAISED BLOOD PRESSURE ON MEDICATION - STEPS 2007.....	129
FIGURE 107 CURRENTLY ON MEDICATION FOR RAISED BP - STEPS 2007.....	130
FIGURE 108 SEVERE HYPERTENSION - STEPS 2007.....	131
FIGURE 109 SEVERE HYPERTENSION ON MEDICATION - STEPS 2007.....	132
FIGURE 110 MEAN HEAR BEAT - STEPS 2007.....	133
FIGURE 111 HEART BEAT OVER 100 - STEPS 2007.....	134
FIGURE 112 RELATIONSHIP OF SYSTOLIC AND DIASTOLIC BP WITH AGE - STEPS 2007.....	134
FIGURE 113 LINE GRAPH OF VITAL SIGNS.....	135
FIGURE 114 NUMBER OF RISK FACTORS - STEPS 2007.....	137
FIGURE 115 PERCENT OF RAISED RISK - STEPS 2007.....	137

STEPS LOGO

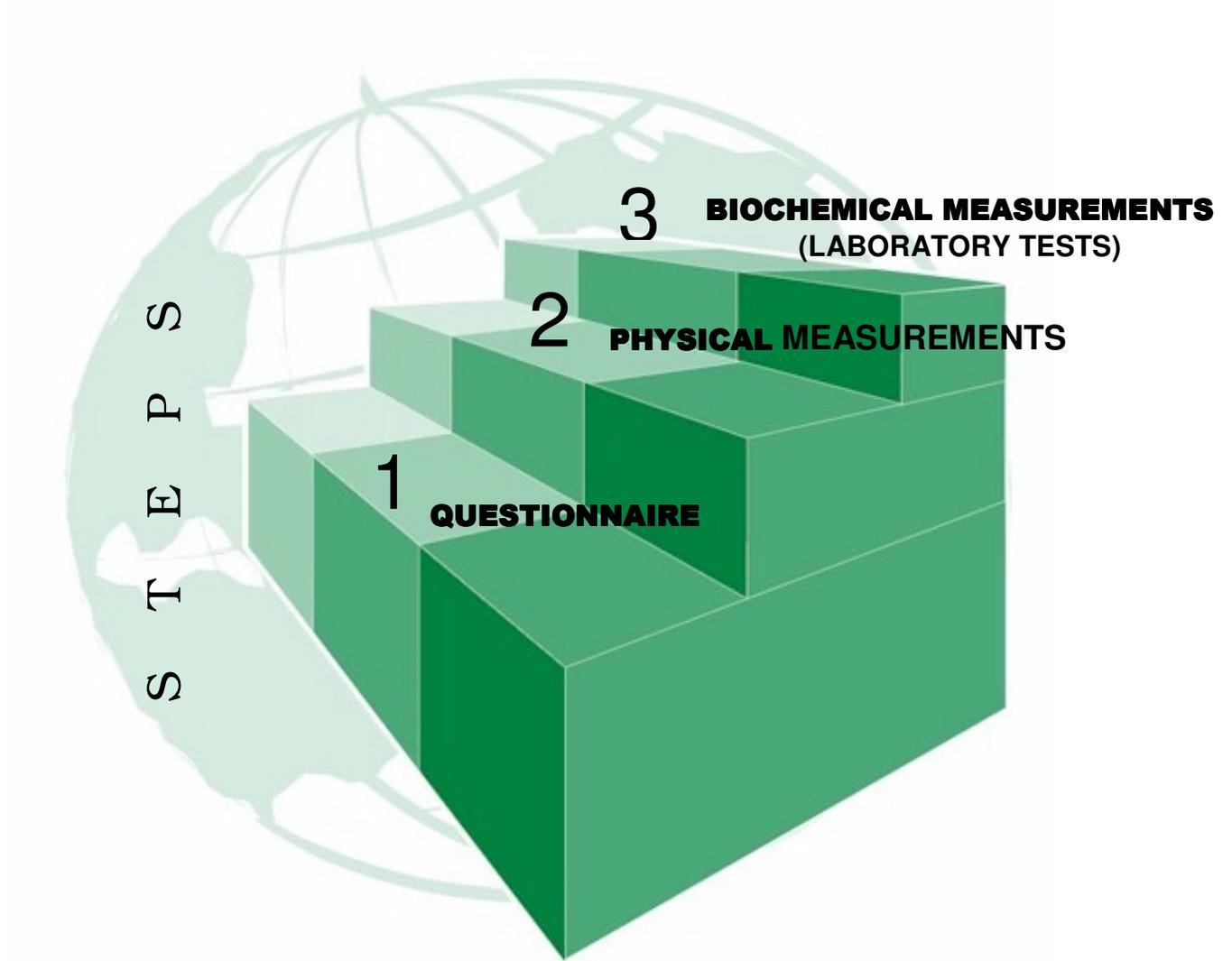


Figure 2 - STEPS Ladder/Process

MAJOR RISK FACTORS FOR NON-COMMUNICABLE DISEASES

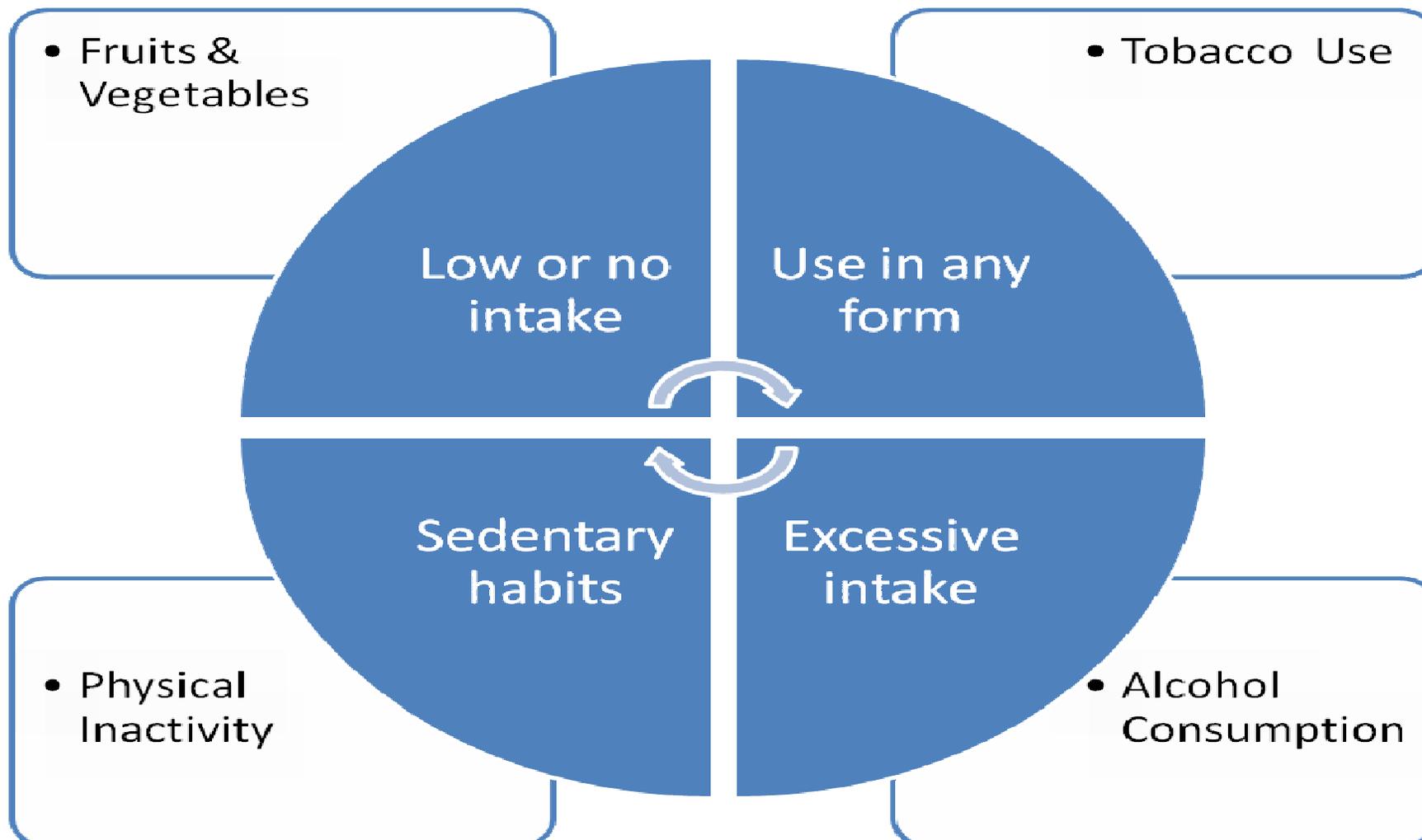


Figure 3 - Major Risk Factors for NCDs

INTRODUCTION

The ageing of populations in developing countries results in both a demographic and an epidemiological transition that will affect the impact of chronic degenerative diseases on the health of the populations. Improvement in economic development mostly meets the needs of societies in terms of their general health. Environmental health, sanitation, maternal, child health and other services become better and as a result, life expectancy increases and lifestyles associated conditions such as obesity, hypertension, and injuries tend to become more prevalent. The change may include a shift in health-related behaviour, which may augment the dietary consumption of fats and alcohol, increase in smoking and decrease physical activity. Changes in risk factor levels in turn increase the number of chronic diseases which manifest themselves at an advanced age. In actual fact, in a population whose life expectancy is in the range of 60 years and above, chronic degenerative diseases become the major determinants of health. Depending on the status of development of every country, non-communicable diseases (NCDs) emerge or rapidly increase or has already established at high levelsⁱ.

There is still a widespread misconception that the problem of NCDs is not relevant for the developing world, that it is a burden of affluent societies only. However, in developing countries, in 1993 greater than 39 million deaths occurred, of which more than 10 million were caused by the major NCDs. These statistics do not include deaths due to nutritional, gastro-intestinal, endocrine, neuropsychiatric, sense organ and genito-urinary diseases, which account for an additional 3 million deaths in the developing countries each yearⁱⁱ.

Surveys of indigenous populations in a number of African countries indicated that hypertension rates are on the rise, as in the prevalence of diabetes. In a large percentage of affected individuals both conditions are being left untreated. In Seychelles, hypertension affects 22% of the population; in South Africa – 16%; in Mauritius – 14%. Diabetes affects from 4 to 15% of the population in these three countries. In Tanzania, the prevalence of major NCDs in the urban population is four times higher than in rural one, 12.8% to 3.1% respectively. According to projections, in developing countries in general three times more people will die from NCDs than from infectious and parasitic diseasesⁱⁱⁱ.

Botswana as a developing country is experiencing a steady increase in the utilization of health services due to non-communicable diseases (hypertension by five times and diabetes increased by two-fold) over the past 18 years (1980 – 1998). A recent countrywide survey of persons seeking health services above 50 years of age revealed that 67% and 12.4% of the respondents had hypertension and diabetes respectively. A study done in 1988 indicates that smoking, as a risk factor was identified in Botswana with a prevalence of 21% in the age groups 15 years and above^{iv}.

It required exploring risk factors which are attributed to the commonest diseases that we see in our health facilities such as Heart disease, Stroke, Cancer, Diabetes, Chronic Respiratory Diseases – COPD, Bronchial Asthma in the population (figure 3).

Conducting a STEPS Survey was then necessary for Botswana to exactly identify the risk factors associated with non-communicable diseases and come up with preventive measures. STEPS is a WHO protocol which is comprised of 3 parts or "Steps" (see Figure 2). Depending on the resources available, countries can choose to implement 1 or more Steps . Botswana conducted STEP 1 and STEP 2 of the survey in 8 selected districts. The results obtained represent the prevalence of risk factors in the country.

Specific Policy guidelines for non-communicable diseases are unavailable at this moment. Secondary and tertiary level services are available at facility levels – investigations, treatment, and rehabilitation and referral system. This survey is intended for a preparation to come up with a national policy which enables the creation of effective and efficient preventive, control measures to address emerging lifestyle diseases.

RATIONALE FOR SURVEILLANCE OF NON-COMMUNICABLE DISEASES

A situation analysis of non-communicable diseases in Botswana conducted in 2001 based on retrospective data collected from CSO where the prime source are all the health facilities. Other relevant data available in Botswana related to chronic non-communicable was included for the study. Although not an accurate representation of the country's overall non-communicable diseases, it showed a significant rise in cardiovascular diseases over the past 20 years, mainly hypertension.^v

The Epidemiology and Disease Control Unit in the Ministry of Health conducted a rapid assessment on 100 persons who attended Trade Exhibition in Gaborone in 2003 and their data analysed. It showed that risk factors such as tobacco smoking (18%), alcohol consumption (22%), physical inactivity (55%), and body mass index of greater than 30 cm/kg² (29%) was present^{vi}

The above information triggered a detailed systematic study by adopting the WHO STEPwise approach in the surveillance of chronic diseases risk factors. The STEPS survey tool is a systematic, sequential process of collecting information from a population. This tool has been widely used all over the world.

OBJECTIVES OF THE STEPS SURVEY

- The epidemic takes decades to become fully established – they have origin at young ages
- They require a long term systematic approach to treatment.
- Since they are long term, there is an opportunity for prevention. The delay of diseases which is attributed to risk factors can be prevented ahead of time and the need to address them to communities and different levels of health facilities to integrate the preventive aspect of the service with existing programmes.

STEPS QUESTIONNAIRE

The WHO generic STEP 1 questionnaire was slightly rearranged to fit to our context without making major changes of its content.

Language used in the interview

The people of Botswana understand English very well and there was no effort made to translate the questionnaire into the local language (Setswana) but, during the interviewers training the material was discussed broadly on how the each question should be forwarded to participants. Interviewers were all Setswana speaking and it was agreed that they use it along with English.

During the survey period sampled individuals were interviewed using the questionnaire (STEP 1) of contents and at the same time their physical condition assessed using standard equipment (STEP 2). STEP 3 was left for the year 2009. Please see contents of STEPS survey below.

Step 1: Demographic and Behavioural

- Education
- Employment
- Income
- Risk factors that contribute to NCDs
 - Tobacco
 - Alcohol use
 - Diet (poor diet)
- Physical inactivity
- Knowledge
- History of high blood pressure and diabetes

Step 2: Physical measurements

- Height
- Weight
- Girth
 - Waist
 - Hip
- Blood pressure
- Pulse Rate

Step 3: Biochemical Tests

- Blood Sugar
- Cholesterol
- Triglycerides

METHODOLOGY

- The 2001 population census from CSO was utilized as the sampling frame.
- The country was categorized into 2 strata (rural and urban areas).
- A decision was taken to pick localities/villages with a population of ≥ 5000 inhabitants for reasons that the country is wide and has scattered villages, localities which makes it difficult for resource allocation. Besides, it is believed that the lifestyle of the people whether they live in rural or urban, village or locality, cattle post or homestead was the same.
- Using simple random sampling, 2 urban villages were selected out of a total of 7 urban villages and 6 rural villages were selected out of a total of 28 rural villages.
- A total of 105 enumeration areas (EA) were selected from across the 8 selected villages using simple random sampling to make the selection within each village. These EAs were distributed proportionally across the 6 villages, with larger villages having more EAs selected from them.
- In each EA the numbers of occupied houses were located.
- A modified version of the Kish Method was used to select 2 eligible people from each household: 1 aged 25-54 and 1 aged 55-64.
- An appointment was made to conduct the interviews with the selected individuals and informed consent was obtained from each participant prior to conducting the interviews.
- A household with no eligible respondent (vacant, new house, out of target age groups) was replaced by the next household.
- Once the desired sample size was collected for that village, no further interviews were conducted in any of the EAs within that village.

CLUSTERS

Table 1 List of Clusters (Urban and Rural)

URBAN (CITIES & TOWNS)	RURAL (Large & Small VILLAGES)	
1. Gaborone	1. Serowe	15. Bobonong
2. Francistown	2. Molepolele	16. Tutume
3. Selibe-Phikwe	3. Maun	17. Gabane
4. Lobatse	4. Mahalapye	18. Mmadinare
5. Jwaneng	5. Kanye	19. Ghanzi
6. Orapa	6. Mochudi	20. Kasane
7. Sowa	7. Mogoditshane	21. Gumare
	8. Palapye	22. Tsabong
	9. Tlokweng	23. Letlhakeng
	10. Ramotswa	24. Kopong
	11. Thamaga	25. Maitengwe
	12. Tonota	26. Kopong
	13. Moshupa	27. Shakawe
	14. Letlhakane	28. Otse

The Ministry of Health and Ministry of Local Government agreed to use hospital and clinic staffs as enumerators and to conduct the survey in the selected respective areas. Forty seven staff members (7 Doctors, 40 Nurses) were called for 3 days (from 28th March to 2nd April 2007) training in Gaborone. During the session, the objectives, overview of the WHO STEPwise approach, and the protocol for Botswana STEPS survey was presented and a detailed training covering the STEP Forms, the STEPS Questionnaire, and exercises on physical measurements for STEP 2 was offered. The training was facilitated by a consultant from WHO-Afro in collaboration with MoH and MLG.

A pilot testing was done in Gabane village which is situated 8 kilometres away from Gaborone. Fifteen households were surveyed. Their findings were presented to participants and the necessary adjustments made to the survey tool.

At the end of the training, logistics were distributed to the teams and the session closed. Districts took one week of preparation and started data collection on the 12th of March 2007 and went up to the 28th of May 2007. Throughout the data collection period, the programme coordinators and

STEPS committee members gave support visits to districts at a field level. The Doctors and Public Health Specialists in the district were assigned as team leaders to supervise day to day activities, review the completed questionnaires and check for omissions and given feed-back to members the following day. The filled forms were kept with the doctors and brought to the Ministry of Health when each district had completed collecting the required sample size. The laid target time for completion was one month, but because of the shortage of survey equipments, the closure of houses during visits, and the large sample size for some districts, it was extended to two months.

During this STEPS survey, 4015 samples were collected. Before data entry, a preliminary screening was done. The forms were sorted by district, checked for completeness, blank forms and duplicates taken out and a specific identifier code and numbering of the hard copies given for each district. Four temporary data entry persons were hired. In the first two days, orientation and practice on the data entry software (EpiData and Epi Info) was given. Data entry then started on the 26th of May and was completed by mid-August 2007. There was no strict supervision while entering the data. The protocol for the 2nd data entry was not observed and it was re-entered in different computers exchanged among the data entry personnel. This happened during the time where one of the coordinators went abroad for a study leave and the second one was on the end of contract leave.

WHO Country office was requested to support on cleaning the data. A consultant Statistician was sent and stayed with us for almost one month. We cleaned and validated the data, returning often to the hard copies to check the data. The data was now ready for analysis. The consultant produced his preliminary mission report while the programme officer went on reviewing, refining the data set. Microsoft Office Excel, Microsoft Office Access, EpiData, Epi Info was used in the analysis. The STEPS Programme was run and a voluminous statistical data produced which enabled us to pick relevant figures and compile a Data Book.

Data were grouped into urban and rural strata: Letlhakane, Chobe, Gabane, Thamaga, Otse, and Kanye were grouped together in 1 stratum and Jwaneng and Francistown were grouped together in the other strata. The PSUs were the 8 villages, 1 city and 1 town selected at the first stage of sampling. The data were partially weighted to take into account the probability of selection of the village/city/town and the EAs. We could not completely weight the data for probability of selection as detailed information about the households and individuals within the households was not available. Additionally, a post-adjustment was made to account for differences in age-sex distribution between the sample and target population. The 2001 Population and Housing Census data was used to extract target age groups for all men and women in the sampled areas. The numbers of people 25-64 years of age were 76,542. - Please refer to Tables 4, 5 and 6.

PREPARATION FOR DATA ANALYSIS

Equipment and tools used

- Computers, printers
- Epi Info Software - 3.4.3
- Microsoft Access, Microsoft Excel
- SPSS
- EpiData
- Investigation Protocol
- Databases
- Completed Questionnaire

Cleaning of Data

The WHO consultant statistician with the head of Non-Communicable Programme worked out in sorting clarification of some variables, cleaning and validation of data (variable by variable) and updating of the data-book.

Two of the four temporary data entry personnel were given a task to select a file whose data was missing or omitted which were identified during data cleaning. Other staff members of the programme assisted in the verification of the data.

Cleaning the data was an essential step prior to the data analysis. It also involves verifying the range and combinations of the variables, in the detection and management of missing data and absent characteristics. It also permits exhaustive management, of the different sections of Steps 1 and 2 by resolving incompatible answers, especially the logic of those which could be excluded during the process of data analysis.

The correction of data inconsistency would have been avoided if the second data entry had been supervised. During the process of data cleansing the following problems were identified,

- There was fragmented databases which was entered in different computers for the first and second time.
- The characteristics of the variable "ID2" of the 'location' file were different to those in the 'survey' file, causing difficulties in the concatenation of the two files (bad report of the characteristics in the file "survey" after detachment of the page/sheet "location' and "consent"). About 202 documents (i.e. 5% of the total number of documents) were involved.
- Existence of several duplicate files.

The detection and management of such data entry errors have required the use of Microsoft Access, Microsoft Excel and Epi Info 3.4.3 (analysis module), enabling us to review all the variables of the questionnaire files ("survey", "location" and "consent") used for data collection in generating queries

to detect any eventual missing, duplicate or inconsistent responses. These were edited and returned to the verification team for comparison with the data collected on the ground and the data detected in the computer.

This process helped to clean and update all the variables with special attention given to the correlation of characteristics of the variables' ID (district) ', "ID1 (subdivision in a district)," ID2 (Enumeration area} and ID3 (sequence of number interviewed), apart from the three other variables.

The cleaned data enabled us to create a final database of the survey.

Creating final database

Counting of records:

- "Location" : 11 variables, 40015 recordings
- "Consent" : 17 variables, 4009 recordings
- "Survey" : 138 variables, 4009 recordings

Concatenation of files

Files "survey" and "location" as well as "consent" having been all cleaned and validated, the process of concatenation was applied followed by control results in accordance with "STEPS" WHO approach. The final database "STEPS.REC" was exported into Epi Info as STEPS.MDB.

This was a delicate procedure with EpiData, therefore we were compelled to use Microsoft Access to create an empty database FUSION.MDB, and then importing data from "location", "consent" and "survey" as tables in the new database:

The creation of (**MasterDataSet0**) with the above tables as sources of cardinal points of addresses' ID ', "ID1," ID2 ", " ID3 ", this was followed by an import as table with "**MasterDataSet**" in the final database "STEPS.MDB."

Validation of the data base "STEPS.MDB."

"Epi_Info_Analysis_Programs.MBD" File was downloaded from the website <http://www.who.int/chp/steps> and exported to the final database "STEPS.MDB." This table contains the general codes necessary and useful for the analysis of STEPS data.

The preparation of the data for analysis required initially to run the programme "AgeRange2564 followed by "MissingAgeSexConsent" to generate categories and to transform the code "Sex" to "Men" and "Women", to verify the existence of a response out of consent for every person, and to generate the variable "valid" , authorizing the

acceptability of the registration to the analysis. Both programmes prepared the data for analysis and authorize the execution of other programs in Epi info.

Data Analysis

The adaptation of the generic code to the various modalities of the questionnaire variables to file STEPS.MBD has been completed before analysis started. This phase dealt with the processes that must be completed for the survey data "STEPS".

It should be noted that the data analysis was done in a standard way by following the guidelines suggested by STEPS, and Epi Info software. During the analysis, some generic programmes have been modified based on the data collected.

Epi Info version 3.4.3 was used for data analysis and PSU and Stratum variables were used along with appropriate commands to properly handle the complex sample design of the survey. Significant differences between age and sex groups were identified as those estimates having non-overlapping 95% CIs.

Data collected for all risk factors listed in Table 2 was analyzed and results shown in the subsequent pages.

RISK FACTORS & CORE INDICATORS

Table 2 List of Risk Factors

	Core Items	Expanded Items	Optional Modules
Step 1 Behavioural	Age Sex and Years at school	Ethnicity Employment status household income	Mental health, Intentional and unintentional injury and violence and oral health. Objective measure of physical activity behaviour
	Tobacco use	Smokeless tobacco, ex- smokers	
	Alcohol consumption	Binge drinking	
	Fruit and vegetable consumption	Oil and fat consumption	
	Physical activity		
	History of blood pressure, treatment for raised blood pressure		
	History of diabetes, treatment for diabetes		
Step 2 Physical Measurements	Weight and height Waist circumference Blood pressure	Hip circumference Heart rate	Skin fold thickness Assessment of physical fitness
Step 3 Biochemical Measurements	Fasting blood sugar Total cholesterol	Fasting HDL-cholesterol and Triglycerides	Oral glucose tolerance test, Urine examination, Salivary cotinine
CORE INDICATORS			
	Key Risk Factor	Data Variable	Indicator
Step 1 Behavioural	Tobacco use	Current daily smoker	Percentage of adults currently smoking daily
	Alcohol consumption	Current drinker	Percentage of adults who drank in the past 30 days
	Physical inactivity	Duration of total activity	Percentage of adults with low levels of activity Median level of physical activity
	Low fruit and vegetable consumption	Number of servings of fruit and vegetable	Percentage of adults eating less than 5 servings a day
Step 2 Physical Measurements	Overweight	Height, Weight, Waist circumference	Mean Body Mass Index, average waist circumference Percentage of overweight and obese adults
	Raised blood pressure	Systolic and Diastolic blood pressure	<ul style="list-style-type: none"> • Mean systolic blood pressure • Percentage of adults with raised blood pressure
Step 3 Biochemical Measurements	Raised blood glucose	Fasting blood glucose	Mean fasting blood glucose Percentage of adults with raised blood glucose
	Raised total cholesterol	Cholesterol	Mean total cholesterol Percentage of adults with raised cholesterol

Total districts population of by age Group and gender - CSO 2001

Table 3 Number of sampled districts

Area	District Code	Gender	Age Group in Years			
			0-24	25-64	65 +	Total
Francistown	16	Male	21777	17521	849	40147
		Female	24751	17177	948	42876
Jwaneng	22	Male	3742	3823	51	7616
		Female	4298	3206	59	7563
Kanye	6	Male	10929	5977	1114	18020
		Female	12587	8263	1758	22608
Letlhakane	13	Male	4107	2945	190	7242
		Female	4628	2787	305	7720
Thamaga	5	Male	5273	2141	474	7888
		Female	5913	3563	753	10229
Gabane	5	Male	2788	1733	184	4705
		Female	3181	2180	333	5694
Kasane	10	Male	1995	1697	67	3759
		Female	2240	1565	74	3879
Otse	17	Male	1463	987	89	2539
		Female	1531	977	145	2653
TOTAL		Male	52074	36824	3018	91916
		Female	59129	39718	4375	103222
GRAND TOTAL			111203	76542	7393	195138

The total population of the sampled districts was 195,138 of which the eligible age groups (25-64) were 76,541 (females 52% and males 48%). More than half of the total population falls under the age of 24 years. This shows that the broad population is youngsters.

Target Population (25-64 age groups) by Gender

Table 4 Population by age group

Age Group (Years)	Men		Women		Both Sexes	
	Number	Percent	Number	Percent	Number	Percent
25 - 34	17219	48	18,549	52	35,768	47
35 - 44	10,676	48	11,601	52	22,277	29
45 - 54	6,018	49	6,259	51	12,277	16
55 - 64	2,911	47	3,309	53	6,220	8
25 - 64	36,824	48	39,718	52	76,542	100

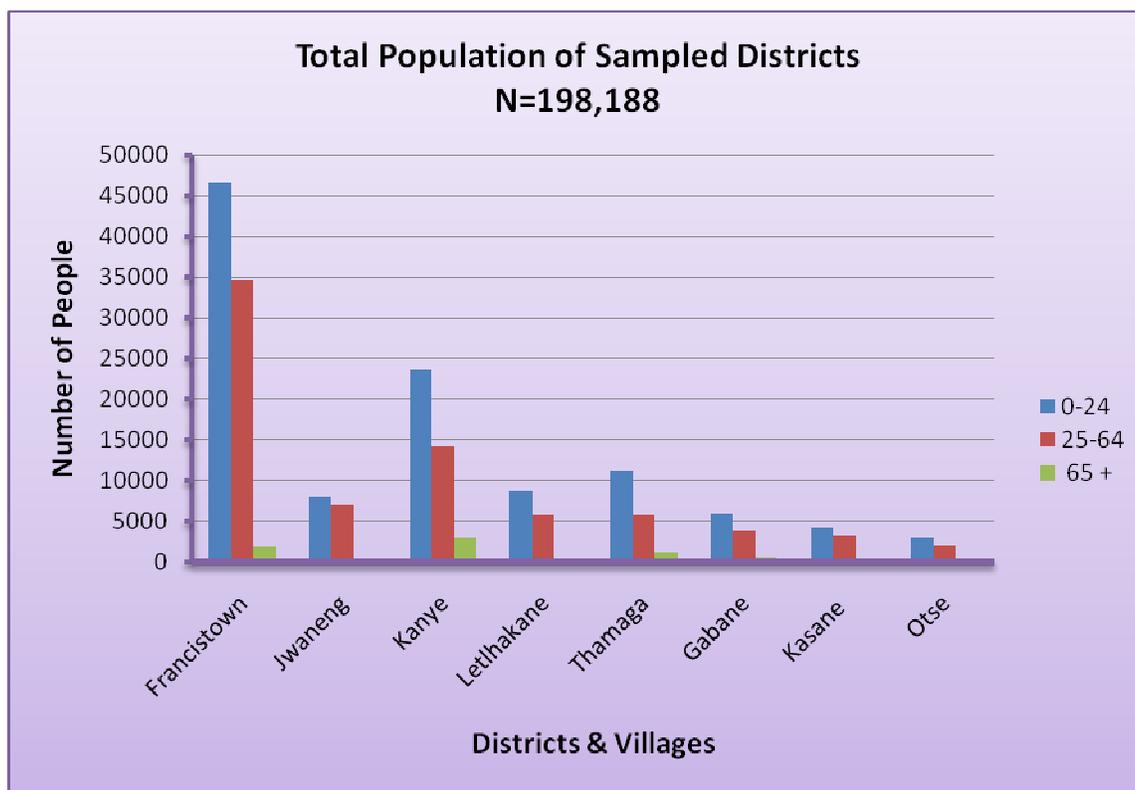


Figure 4 Population of sampled districts

Table 5 Sampled Population

Total Pop. of Males 25 - 64 years	36,824	<ul style="list-style-type: none"> • 2% of all eligible age groups (Pop. 76,542) • 3.5% of males of the same age group (Pop. 36,824) • 32% of the total sample size (Pop. 4000)
Total Number of Males surveyed	1,284	
Total Pop. of Females 25 - 64 years	39,718	<ul style="list-style-type: none"> • 3.6% of all eligible age groups (Pop. 76,542) • 7% of females of the same age group (Pop. 39,718) • 68 % of the total sample size (Pop. 4000)
Total number of Females surveyed	2,719	

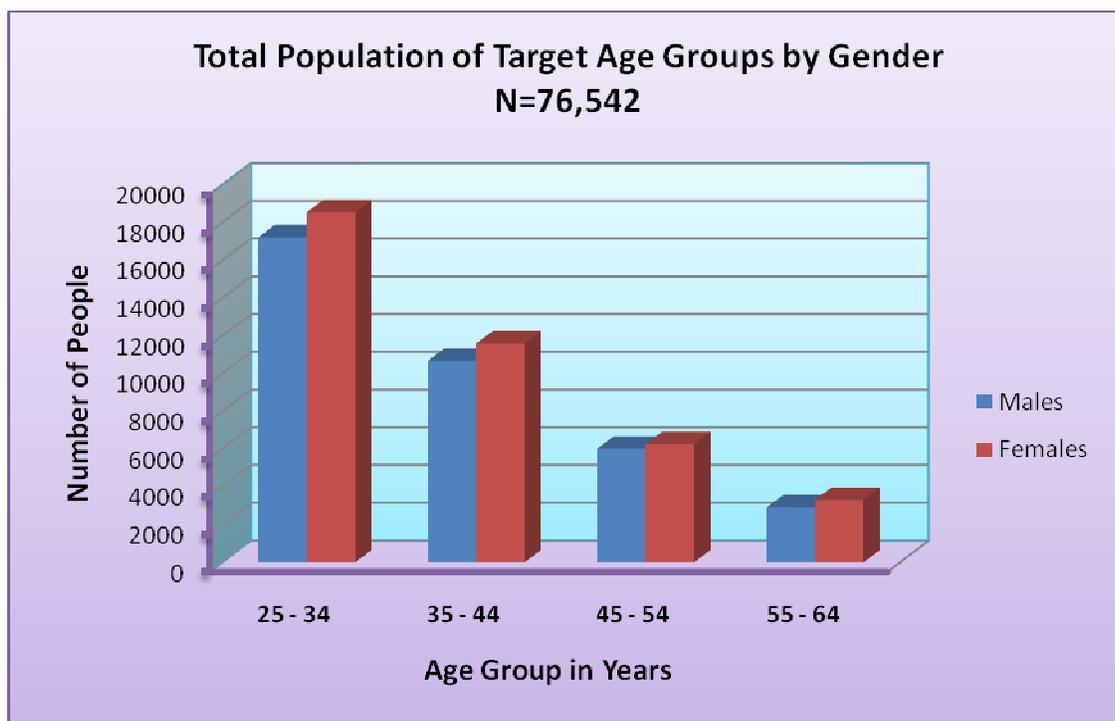


Figure 5 Population of target age groups

Summary of districts eligible age groups, enumeration areas & samples collected

Table 6 Summary of sampled areas

SURVEY AREA	POPULATION			ENUMERATION AREA		
	District	25-64 Yrs.	Samples	%	Number	Surveyed
Francistown	34,698	1757	5	181	55	30
Jwaneng	7,029	272	4	33	9	27
Kanye	14,240	820	6	93	18	19
Thamaga	5,704	375	7	39	4	10
Gabane	3,913	214	6	18	6	33
Lethakane	5,732	291	5	29	6	21
Kasane	3,262	168	5	14	4	29
Otse	1,964	106	5	9	2	22
Total	76,542	4003	5	425	106	30

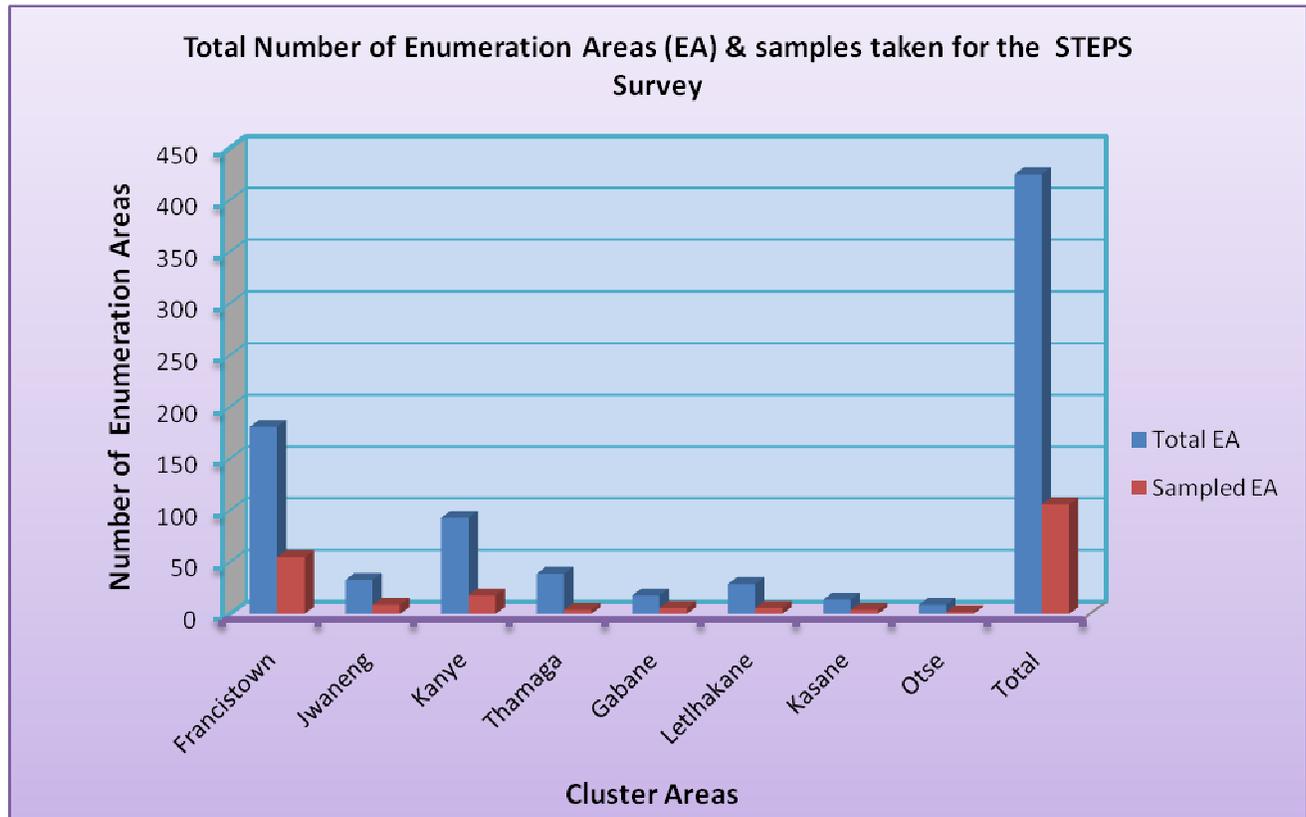


Figure 6 Enumeration areas and Samples taken - STEPS 2007

Five percent of the eligible total population (25-64 age groups) was considered for the STEPS survey.

The target sample size required for the country was 4000. It was oversampled by 15. Twelve of these (0.3%) were excluded from the analysis because of incomplete information. The refined data set of 4003 was taken for final analysis.

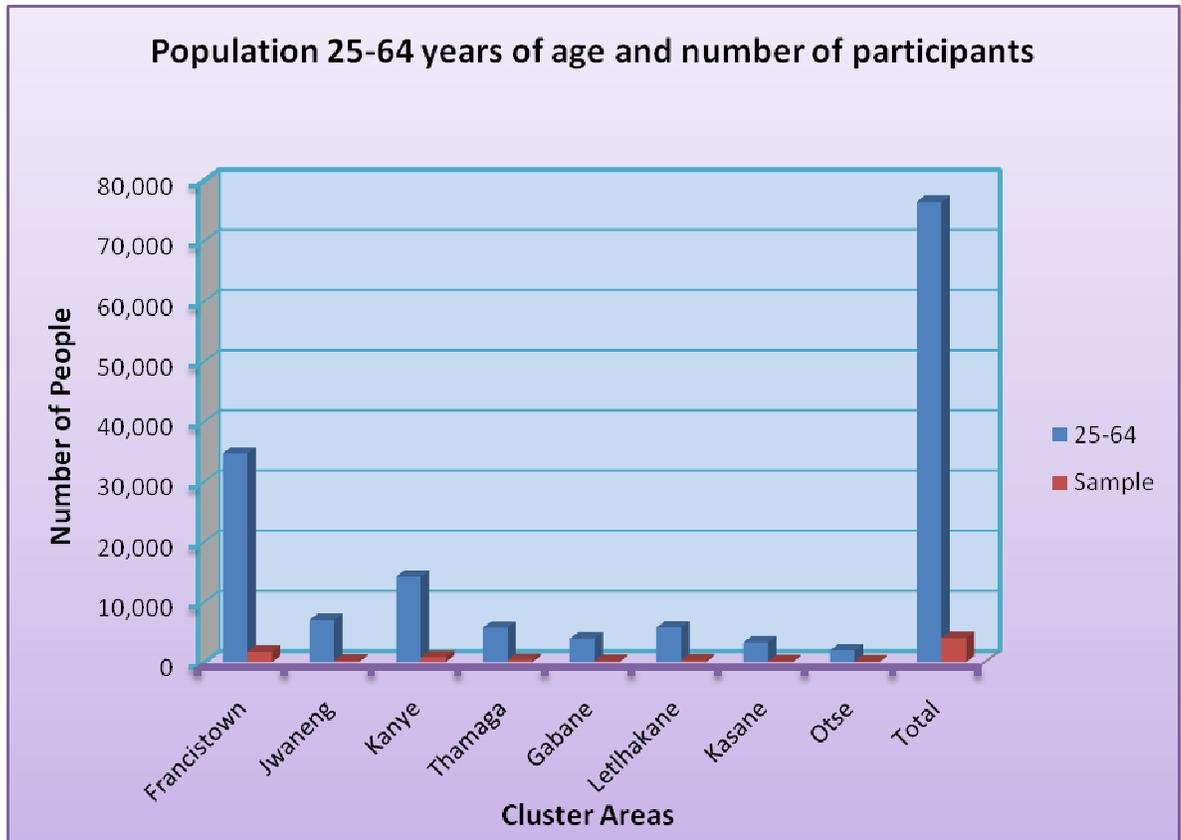


Figure 7 Proportion of samples taken - STEPS 2007

BOTSWANA STEPS SURVEY 2007

DISTRICT POPULATION BY AGE GROUP AND NUMBER OF SAMPLE SIZE COLLECTED

Table 7 District pop. by age

Survey area	Gender	25 - 34			35 - 44			44 - 54			55 - 64			Total 25 - 64 Years		
		Pop.	Sample	%	Pop.	Sample	%	Pop.	Sample	%	Pop.	Sample	%	Pop.	Sample	%
Francistown	Male	8,797	312	3.5	5,165	146	2.8	2,571	63	2.5	988	50	5.1	17521	571	3.3
	Female	8,877	577	6.5	5,017	268	5.3	2,344	214	9.1	939	127	13.5	17177	1186	6.9
Jwaneng	Male	1,676	50	3.0	1,262	34	2.7	666	9	1.4	219	8	3.7	3823	101	2.6
	Female	1,647	83	5.0	1,012	55	5.4	441	22	5.0	106	11	10.4	3206	171	5.3
Southern Kanye	Male	2,439	103	4.2	1,580	49	3.1	1,138	37	3.3	820	44	5.4	5977	233	3.9
	Female	3,139	216	6.9	2,380	154	6.5	1,662	104	6.3	1,082	113	10.4	8263	587	7.1
Letlhakane	Male	1,412	58	4.1	854	36	4.2	482	20	4.1	197	9	4.6	2945	123	4.2
	Female	1,360	78	5.7	865	51	5.9	357	27	7.6	205	12	5.9	2787	168	6.0
Kweneng E. Thamaga	Male	746	49	6.6	554	24	4.3	499	25	5.0	342	18	5.3	2141	116	5.4
	Female	1,196	76	6.4	1,018	67	6.6	794	70	8.8	555	46	8.3	3563	259	7.3
Gabane	Male	834	17	2.0	467	6	1.3	272	3	1.1	160	9	5.6	1733	35	2.0
	Female	1,021	55	5.4	600	57	9.5	331	38	11.5	228	29	12.7	2180	179	8.2
Chobe Kasane	Male	894	31	3.5	494	21	4.3	217	12	5.5	92	5	5.4	1697	69	4.1
	Female	907	59	6.5	409	25	6.1	164	13	7.9	85	2	2.4	1565	99	6.3
South E. Otse	Male	421	14	3.3	300	9	3.0	173	10	5.8	93	3	3.2	987	36	3.6
	Female	402	24	6.0	300	13	4.3	166	20	12.0	109	13	11.9	977	70	7.2
Total		35,768	1802	5.0	22,277	1015	4.6	12,277	687	5.6	6,220	499	8.0	76542	4003	5.2

The population of Francistown and Kanye was very much high as compared to the rest of the selected areas. The required sample size for the country was 4000 and a big proportion of this sample was in Kanye and Francistown.

SAMPLING AND RESPONSE PROPORTIONS

Table 8 Response Proportions

Age Group (years)	Total Eligible	RESPONSE PROPORTIONS					
		Men		Women		Both Sexes	
		n	%	n	%	n	%
25-34	1802	634	35.2	1168	64.8	1802	100.0
35-44	1015	325	32.0	690	68.0	1015	100.0
45-54	687	179	26.1	508	73.9	687	100.0
55-64	499	146	29.3	353	70.7	499	100.0
25-64	4003	1284	32.1	2719	67.9	4003	100.0

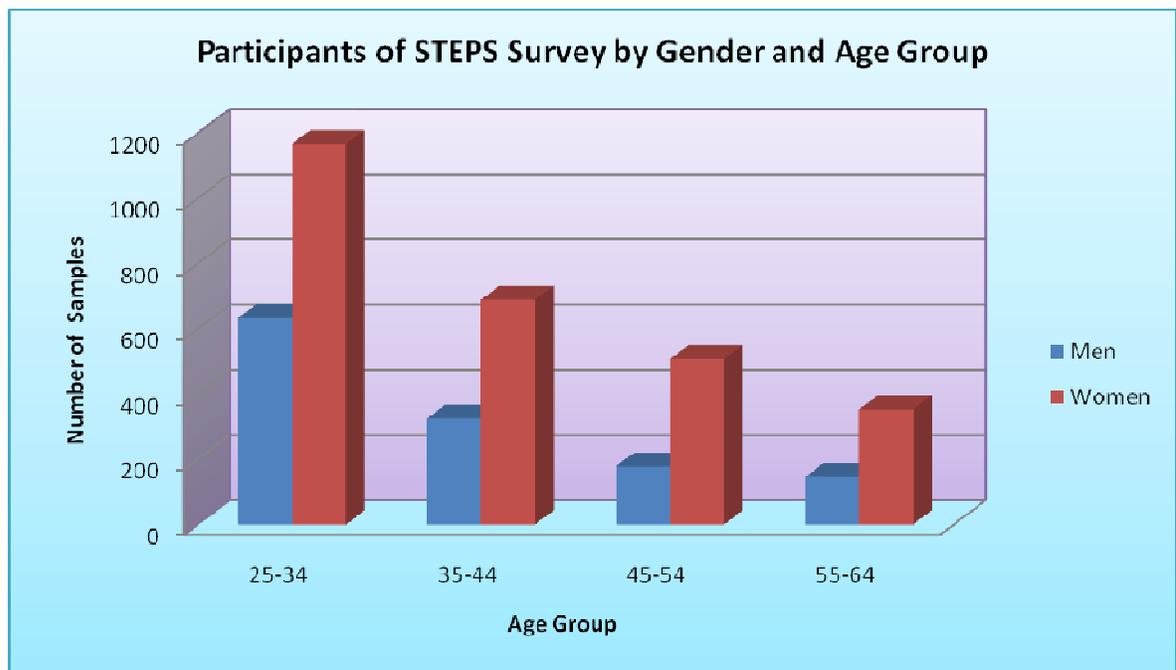


Figure 8 Participants of STEPS Survey 2007

There were 4003 participants (1284 males and 2719 females) who were in the survey. The response rate for STEP 1 was 100% while for STEP 2, it was 99%. STEP 3 was not done.

DEMOGRAPHIC INFORMATION

Table 9 Respondents

Age group and sex of respondents						
Age Group (years)	Men		Women		Both Sexes	
	n	%	n	%	n	%
25-34	634	35.2	1168	64.8	1802	45.0
35-44	325	32.0	690	68.0	1015	25.5
45-54	179	26.1	508	73.9	687	17.2
55-64	146	29.3	353	70.7	499	12.5
25-64	1284	32.1	2719	67.9	4003	100

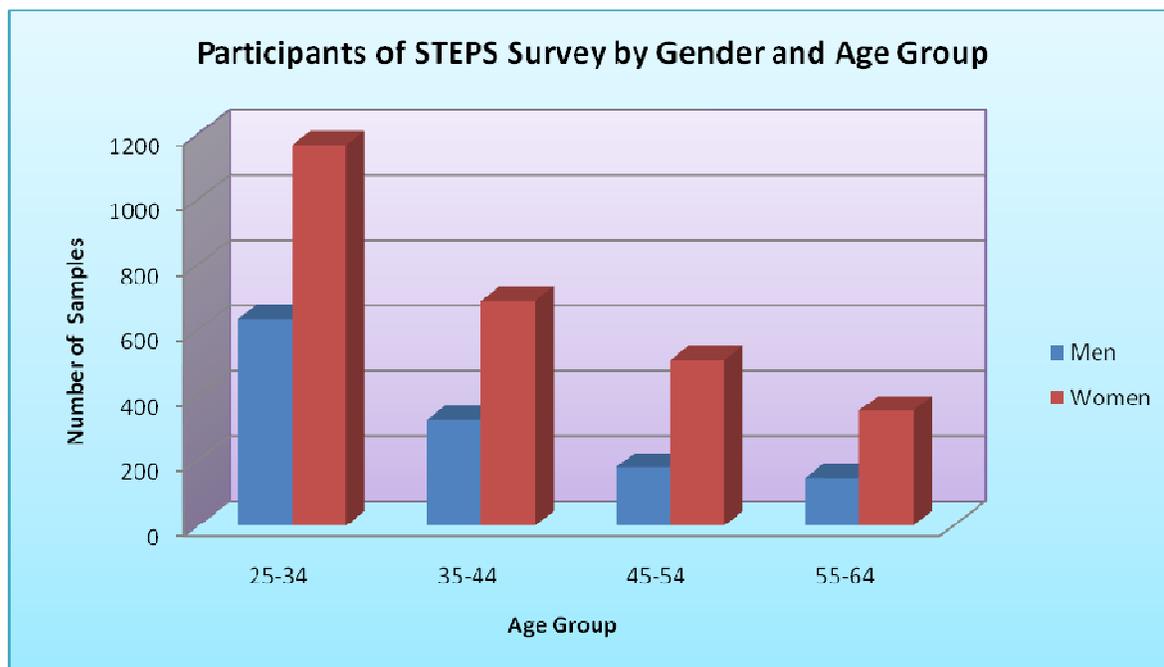


Figure 9 - Number of participants - STEPS survey 2007

The numbers of participants in the survey were 4003 with 68% females. The majority of these participants were in the age groups 25-44 (70.5%).

Table 10 Ethnic Groups

Ethnic group of respondents							
Age Group (years)	Both Sexes						
	n	Motswana	Other African	European	Coloured (Mixed)	Asian	Others
25-34	1802	94.3	3.7	0.1	0.1	0.1	1.7
35-44	1015	94.6	3.7	0.2	0.0	0.0	1.5
45-54	687	96.2	2.8	0.1	0.0	0.0	0.9
55-64	499	96.8	1.4	0.0	0.0	0.0	1.8
25-64	4003	95.0	3.3	0.1	0.0	0.0	1.5

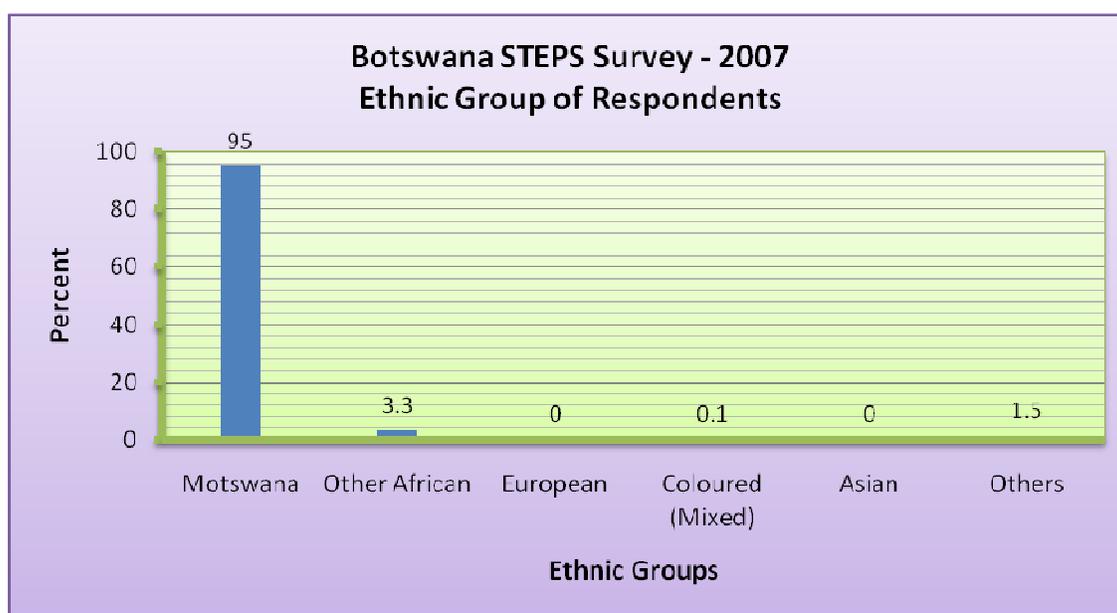


Figure 10 Ethnic groups of participants - STEPS survey 2007

95% of the respondents of the STEPS survey were Motswana. The rest 5% were other African Europeans, Asians and from other ethnic groups.

Table 11 Years of Education

Mean number of years of education						
Age Group (years)	Men		Women		Both Sexes	
	n	Mean	n	Mean	n	Mean
25-34	610	10.6	1128	10.0	1738	10.2
35-44	306	9.1	642	8.0	948	8.4
45-54	163	5.9	455	5.7	618	5.7
55-64	127	4.1	320	4.3	447	4.2
25-64	610	10.6	1128	10.0	1738	10.2

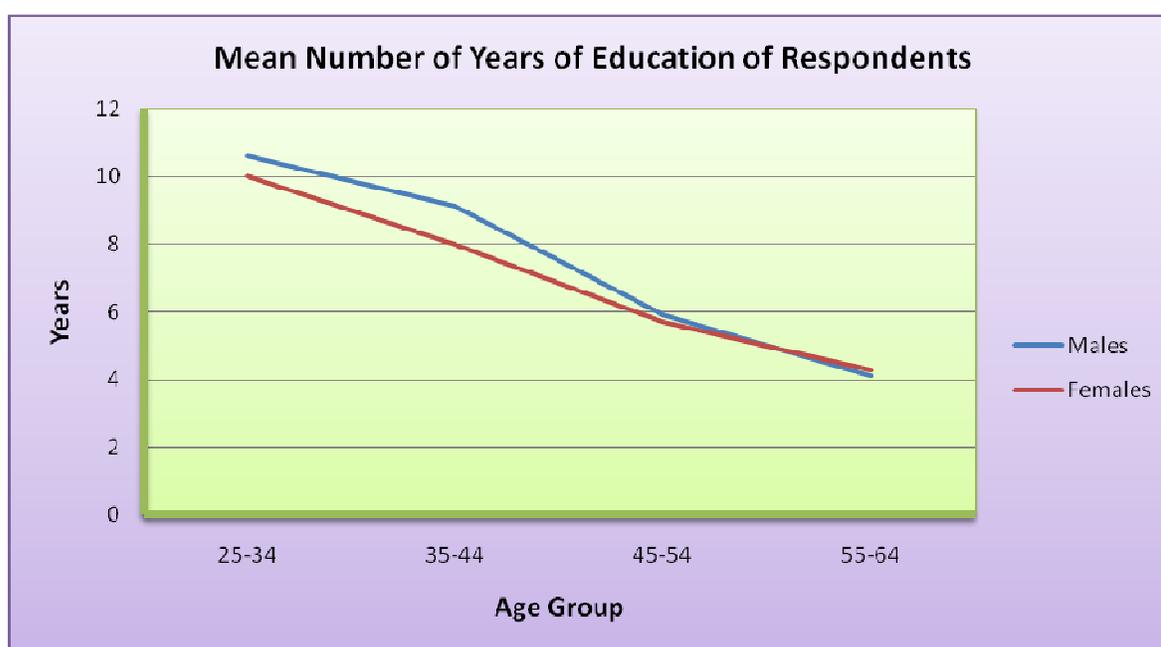


Figure 11 - Mean number of years of educ. - STEPS survey 2007

The mean number of years of education taken by both male and female respondents was ten to 10.2 years with no marked difference between them.

Table 12 level of education - Male

		Highest level of education						
		Men						
Age Group (years)	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% High school completed	% College/ University completed	% Post graduate degree completed
25-34	611	3.4	3.4	13.7	53.7	16.9	8.7	0.2
35-44	313	10.5	10.9	23.3	33.2	12.8	8.9	0.3
45-54	174	29.3	16.7	27.0	15.5	5.7	5.7	0.0
55-64	141	40.4	27.0	20.6	6.4	2.1	2.8	0.7
25-64	1239	13.1	9.8	18.8	37.8	12.6	7.7	0.2

The highest level of education reached by most male participants was secondary school (37.8%) followed by primary school (18.8%) and less than 10% of them had completed university.

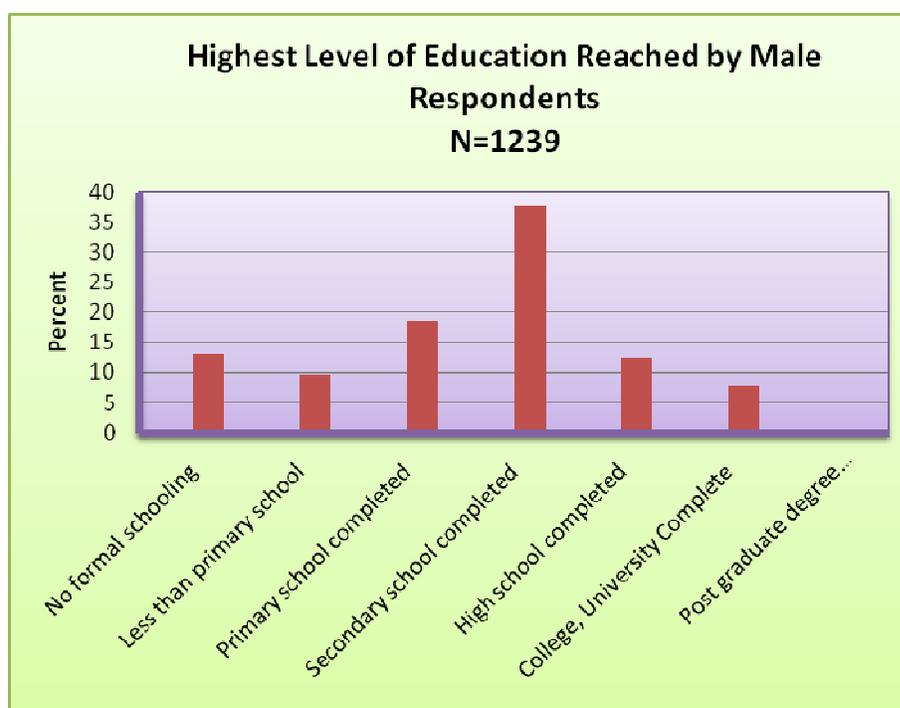


Figure 12 - Highest level of educ. completed - STEPS survey 2007

Table 13 Level of education - Female

Highest level of education								
Age Group (years)	Women							
	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% High school completed	% College/ University completed	% Post graduate degree completed
25-34	1139	2.4	3.5	20.5	59.1	8.6	5.9	0.1
35-44	668	8.2	10.2	43.6	26.5	6.9	3.9	0.7
45-54	497	23.1	23.7	35.2	11.7	3.6	2.6	0.0
55-64	338	24.3	38.8	26.9	5.9	3.8	0.3	0.0
25-64	2642	10.6	13.5	29.9	35.1	6.6	4.0	0.2

Only 35.1% of females who participated in STEPS Survey had completed secondary school and another 29.9% had completed primary school. The percentage who completed (4.0%) university was very much lower than that of males (7.7%).

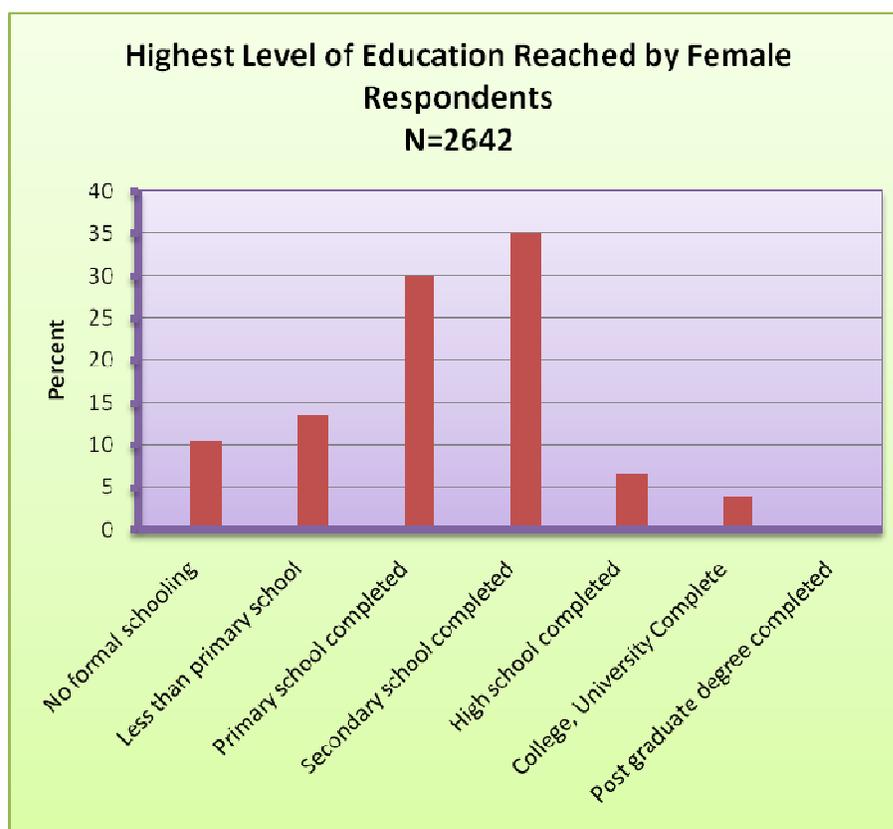


Figure 13 - Highest level of educ. in females - STEPS 2007

Table 14 Level of education - Both

		Highest level of education						
Age Group (years)	Both Sexes							
	n	% No formal schooling	% Less than primary school	% Primary school completed	% Secondary school completed	% High school completed	% College/ University completed	% Post graduate degree completed
25-34	1750	2.7	3.5	18.1	57.2	11.5	6.9	0.1
35-44	981	9.0	10.4	37.1	28.6	8.8	5.5	0.6
45-54	671	24.7	21.9	33.1	12.7	4.2	3.4	0.0
55-64	479	29.0	35.3	25.1	6.1	3.3	1.0	0.2
25-64	3881	11.4	12.3	26.4	36.0	8.5	5.2	0.2

Overall, the greatest percentage of participants completed secondary school (36.0%), and over a quarter of participants had gone as far as completing primary school (26.4%). Only 5.2% of participants completed a University degree and less than 1% (0.2%) had a postgraduate degree.

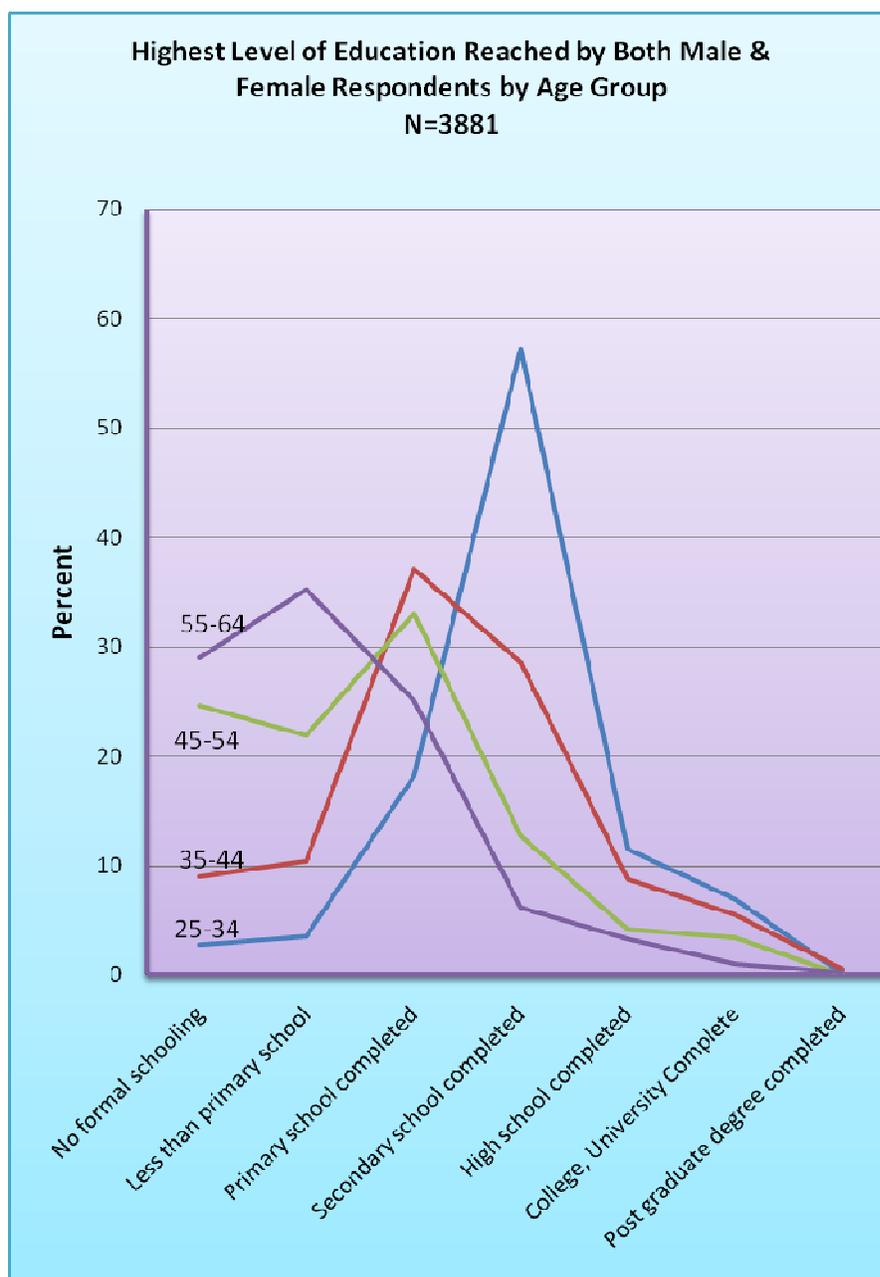


Figure 14 - Highest level of Educ. by age range - STEPS 2007

Table 15 Employment status - Males

Age Group (years)	Employment status				
	Men				
	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
25-34	610	27.0	24.8	9.8	38.4
35-44	306	36.3	23.5	16.3	23.9
45-54	173	25.4	15.6	20.2	38.7
55-64	135	20.7	10.4	11.9	57.0
25-64	1224	28.4	21.6	13.2	36.8

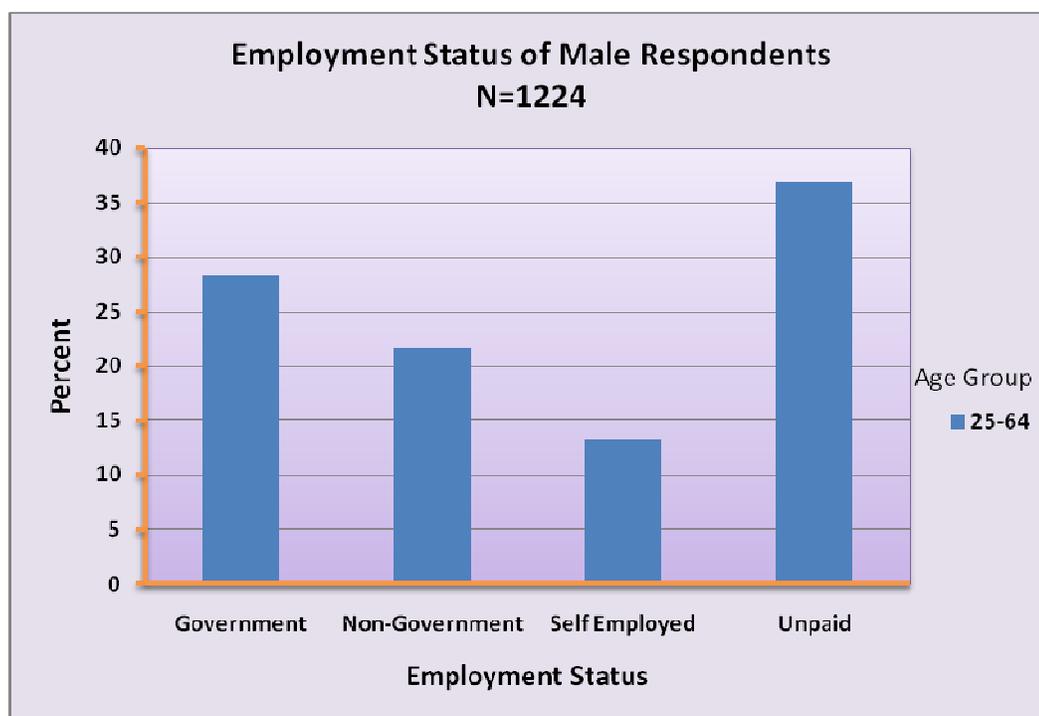


Figure 15 - Employment status in males - STEPS 2007

The above table and figure describes the main work status of respondents over the last 12 months whether they had been paid or unpaid employment. Unpaid includes those persons who are non-paid, students, homemakers, retired, and unemployed. The study shows that 28.4% of male respondents were government and 21.6% non-government employees. 13.2% were self employed. Quite a big percentage of the male respondents (36.8%) were in the category of unpaid.

Table 16 Employment status - Females

Age Group (years)	Employment status				
	Women				
	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
25-34	1124	12.1	9.7	7.5	70.7
35-44	649	16.2	10.3	11.2	62.2
45-54	480	12.1	5.4	16.5	66.0
55-64	305	6.2	3.0	9.2	81.6
25-64	2558	12.4	8.2	10.3	69.0

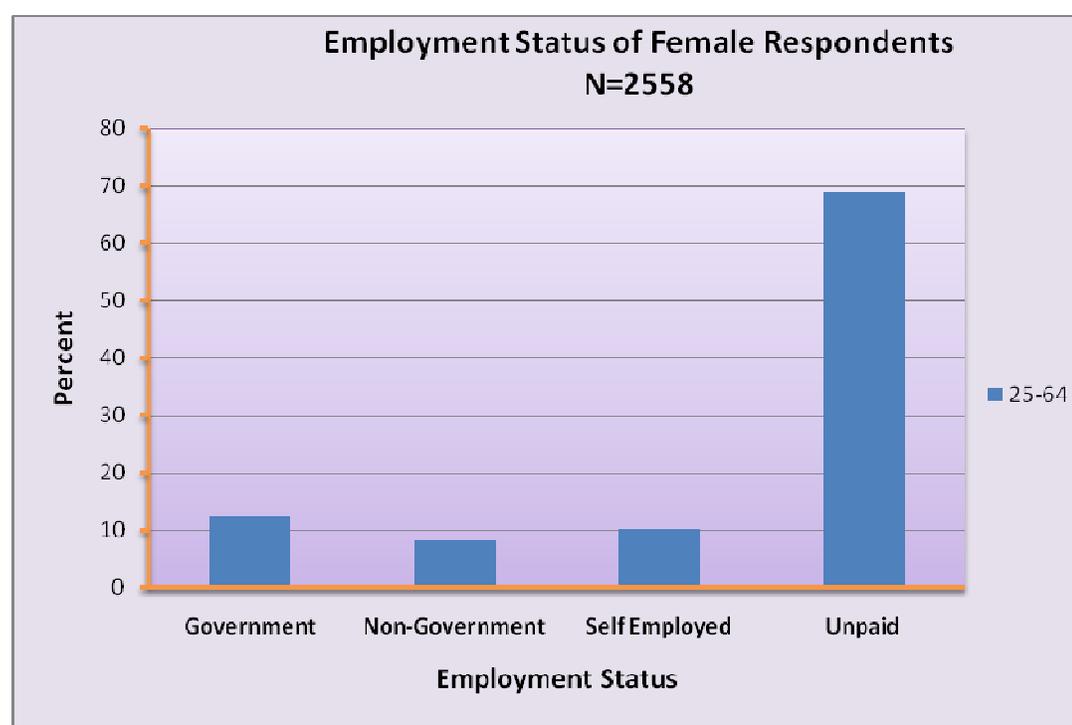


Figure 16 - Employment status in Females - STEPS 2007

The majority of participants for the survey were female and yet only 20.6% of them were employed either in government or non-government institutions where as the percentage of males with these employment status was twice that of theirs. Two-thirds (69.0%) of them were actually unpaid.

Table 17 Employment Status Both sexes

Age Group (years)	Employment status				
	Both Sexes				
	n	% Government employee	% Non-government employee	% Self-employed	% Unpaid
25-34	1734	17.4	15.0	8.3	59.3
35-44	955	22.6	14.6	12.9	49.9
45-54	653	15.6	8.1	17.5	58.8
55-64	440	10.7	5.2	10.0	74.1
25-64	3782	17.6	12.6	11.2	58.6

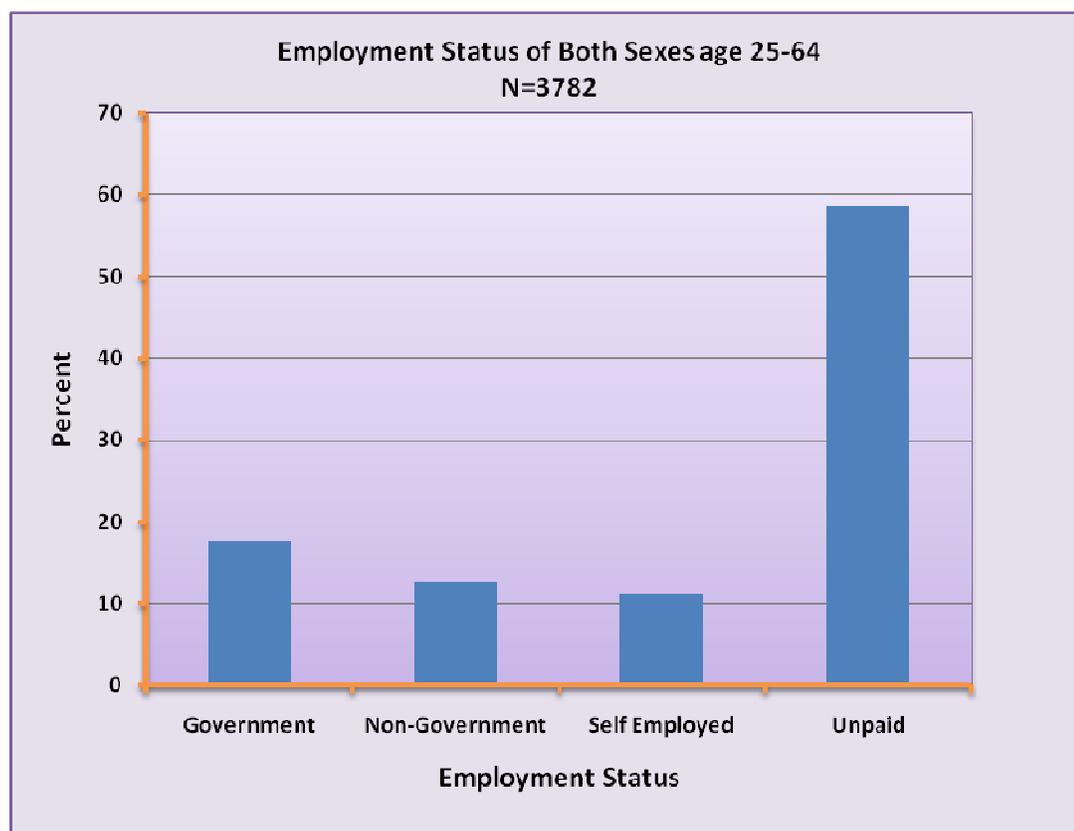


Figure 17 - Employment status in both sexes - STEPS 2007

Taking the employment status of both male and female respondents, 30.2% of them were employed in government and non-government jobs, 11.2% were self employed and 58.6% unpaid.

Table 18 Unpaid work - males

Unpaid work and unemployed							
Age Group (years)	Men					Unemployed	
	n	% Non-paid	% Student	% Home-maker	% Retired	% Able to work	% Not able to work
25-34	234	0.9	1.7	1.3	0.0	89.3	6.8
35-44	73	0.0	0.0	0.0	0.0	82.2	17.8
45-54	67	0.0	0.0	1.5	3.0	85.1	10.4
55-64	77	0.0	0.0	1.3	14.3	50.6	33.8
25-64	451	0.4	0.9	1.1	2.9	80.9	13.7

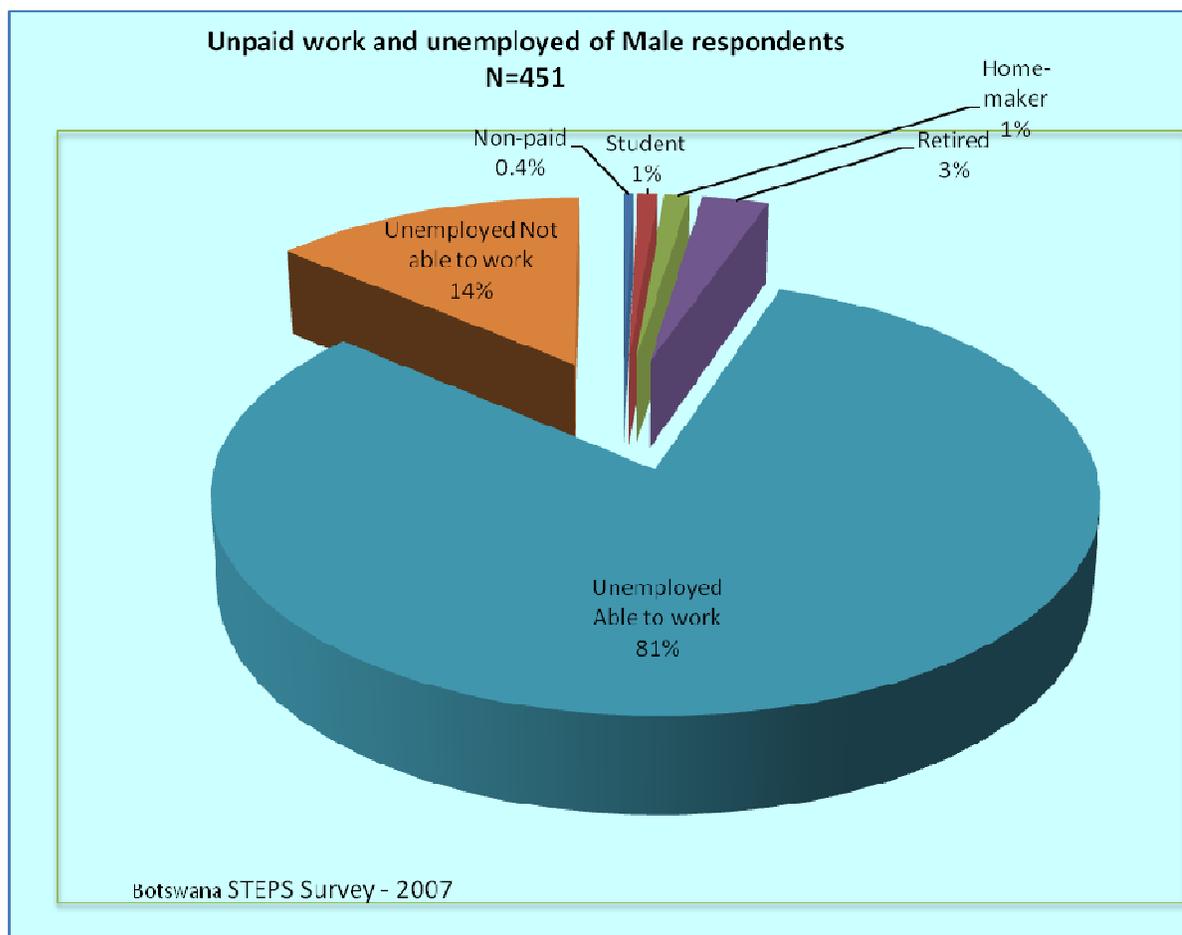


Figure 18 -Unpaid & unemployed males - STEPS 2007

The analysis of male respondents of unpaid work and unemployed showed that 80.9% of them were able to work but unemployed, 13.7% were not able to work and unemployed, 2.9% were retired, and 2% were either students (0.9%) or homemakers (1.1%).

Table 19 Unpaid work - Females

Unpaid work and unemployed							
Age Group (years)	Women						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
25-34	795	0.4	1.4	14.6	0.1	74.8	8.7
35-44	404	1.2	0.0	26.0	0.0	66.8	5.9
45-54	317	1.6	0.0	26.8	2.2	55.5	13.9
55-64	249	2.0	0.0	18.5	12.0	39.0	28.5
25-64	1765	1.0	0.6	19.9	2.2	64.5	11.8

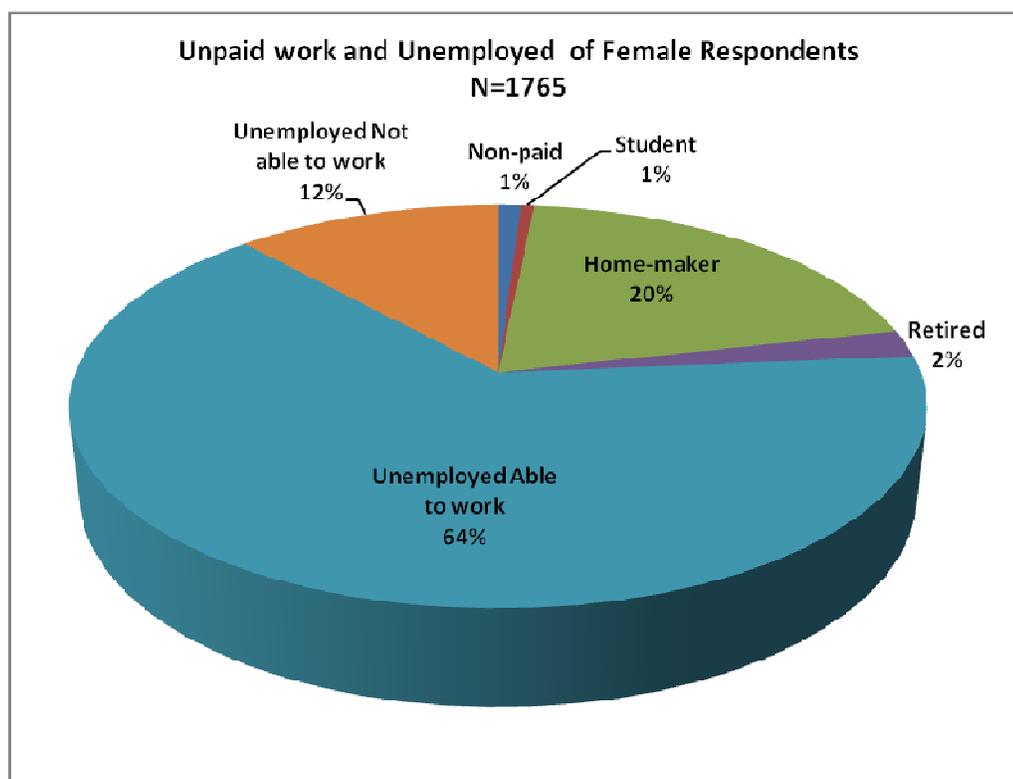


Figure 19 unpaid & unemployed females - STEPS 2007

The proportion of female respondents in unpaid work and unemployed over the last 12 months were 1765 in number. 64.5% of them were able to work but not employed, where as 11.8% were not able to work. 19.9% were home makers, 2.2% were retired, 0.6% were students and 1.0% were non-paid.

Table 20 Unpaid work - Both sexes

Unpaid work and unemployed							
Age Group (years)	Both Sexes						
	n	% Non-paid	% Student	% Home-maker	% Retired	Unemployed	
						% Able to work	% Not able to work
25-34	1029	0.5	11.6	1.5	0.1	78.1	8.3
35-44	477	1.0	22.0	0.0	0.0	69.2	7.8
45-54	384	1.3	22.4	0.0	2.3	60.7	13.3
55-64	326	1.5	14.4	0.0	12.6	41.7	29.8
25-64	2216	0.9	16.1	0.7	2.3	67.8	12.2

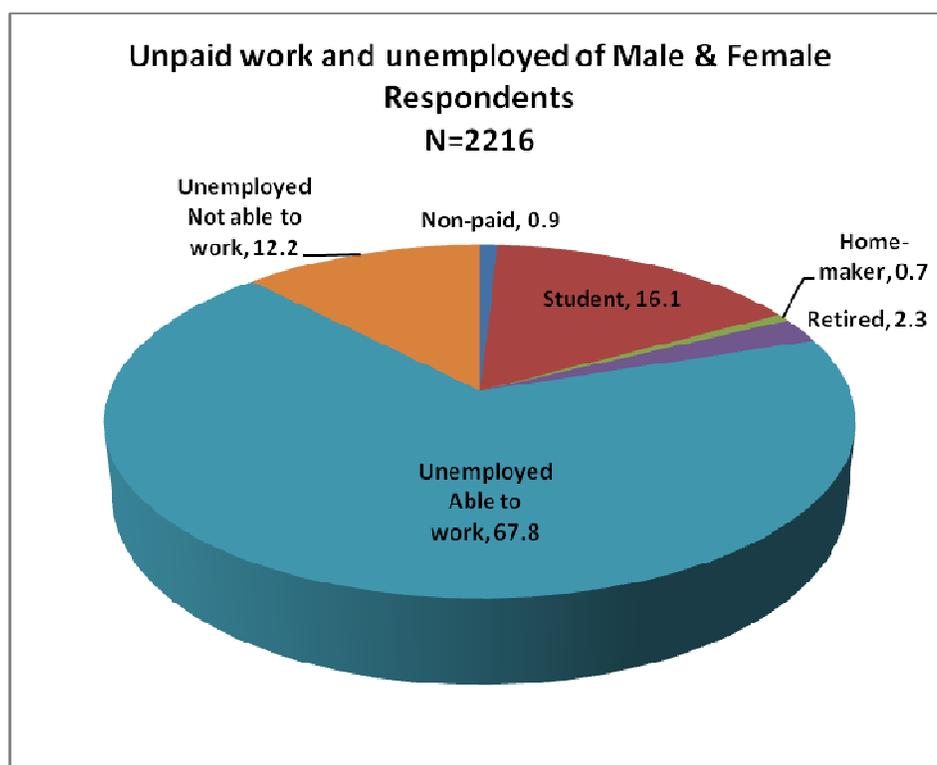


Figure 20 Unpaid and unemployed of both sexes - STEPS 2007

The status of unpaid work and unemployed in both male and female respondents was that 67.8% were unemployed and able to work, 12.2% were unemployed and not able to work, 16.1% were students, 2.3% were retired and less than 2% were either homemakers (0.7%) or non-paid individuals (0.9%).

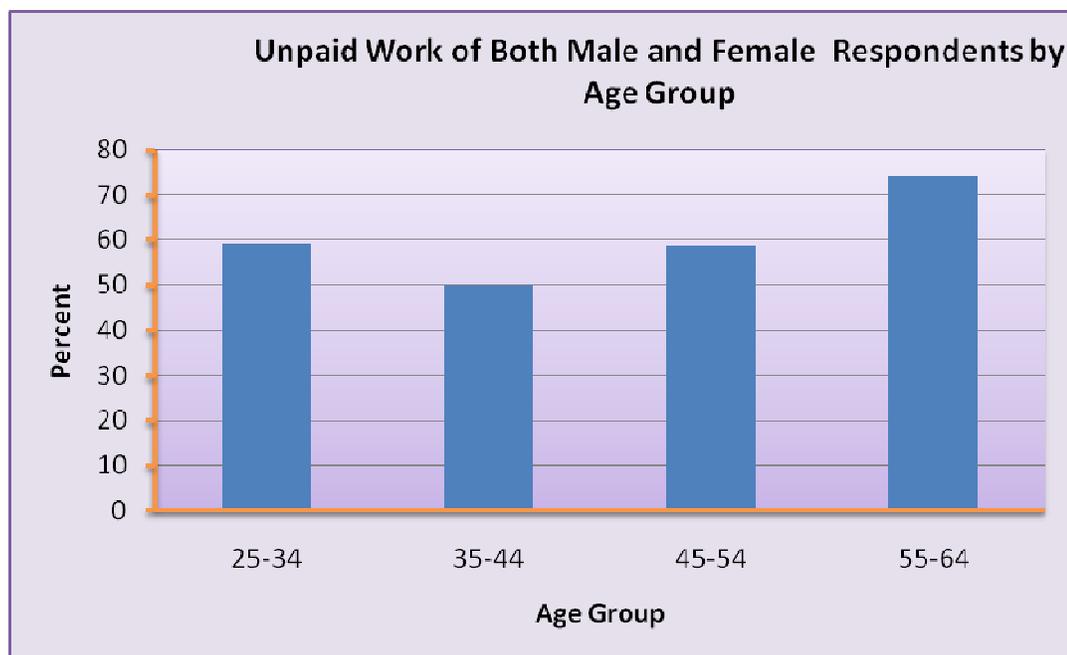


Figure 21 Unpaid work, both sexes - STEPS 2007

Unpaid as an employment status shows that participants in the age range 55-64 were the highest followed by the younger age group of 25-34 and the rest. More than 50% of the respondents of the 2007 STEPS survey were found to be unpaid.

MEAN PER CAPITA HOUSEHOLD ANNUAL INCOME

A question posed to each respondent was what were the average earnings of the household for the past one year. The response we got was only from 316 individuals. The mean per capita annual household income was computed to be Pula 4479.20.

ESTIMATED HOUSEHOLD EARNINGS

While a very small percentage of respondents provided an exact amount of income, 30% responded to the question which income category describes their household income. Of these respondents, 52.2% stated that their estimated annual income was less than Pula1500.

Estimated household earnings

Table 21 Household earnings

Estimated Annual Income in Pula	Frequency	Percent
1. <1500	631	52.2
2. 1500 - 4000	404	33.4
3. 4001 - 8000	110	9.1
4. >8000	64	5.3
Total	1209	100.0

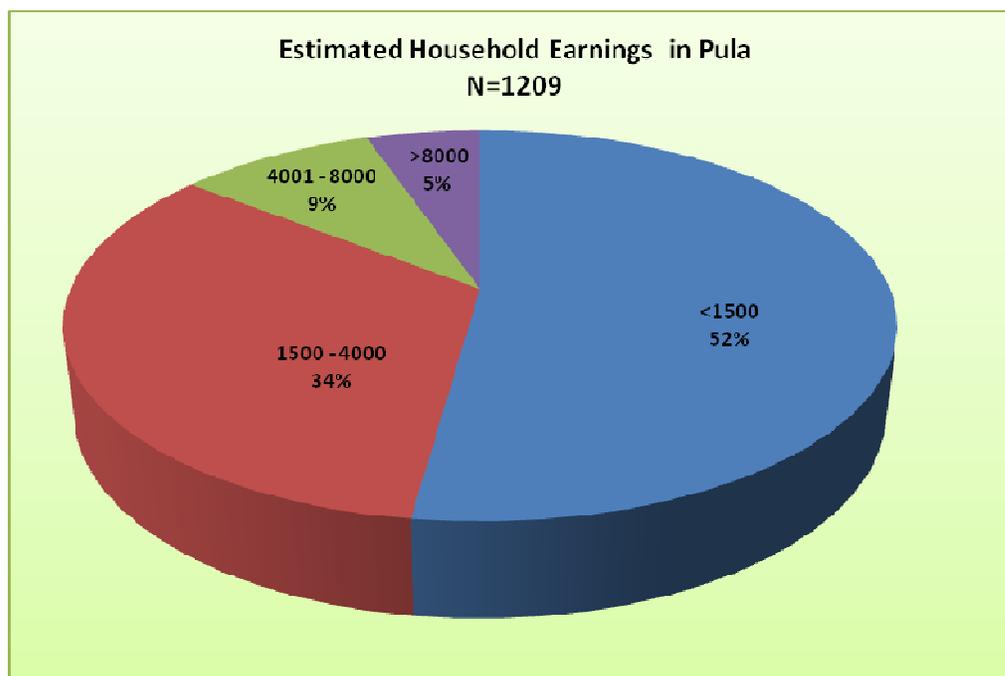


Figure 22 Estimated household earnings - STEPS 2007

TOBACCO USE

Table 22 Current smokers

Percentage of current smokers(daily and non-daily)									
Age Group (years)	Men			Women			Both Sexes		
	n	% Current smoker	95% CI	n	% Current smoker	95% CI	n	% Current smoker	95% CI
25-34	630	36.6	30.0-43.3	1159	5.3	3.0-7.7	1789	21.3	17.0-25.6
35-44	320	37.7	21.8-53.6	685	9.4	3.1-15.7	1005	22.2	17.5-26.9
45-54	177	24.8	15.9-33.6	500	7.6	0.0-15.2	677	15.6	8.3-22.9
55-64	144	24.4	14.6-34.2	350	11.5	2.5-20.6	494	17.1	9.3-25.0
25-64	1271	32.8	27.5-38.0	2694	7.8	3.1-12.6	3965	19.7	16.7-22.7

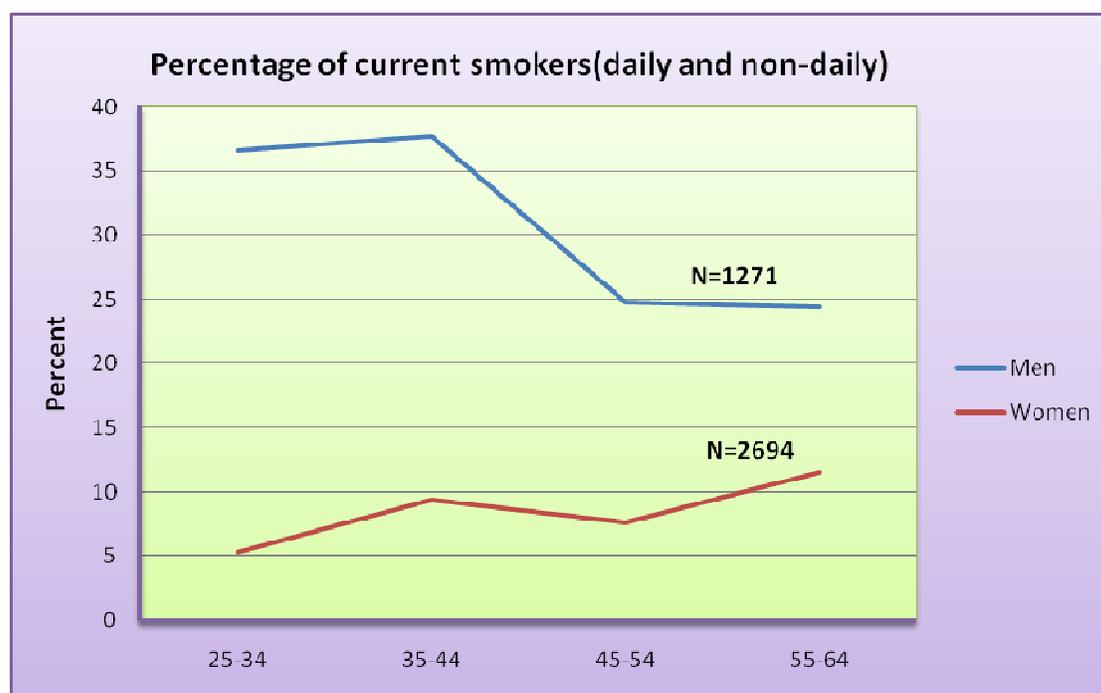


Figure 23 Current smokers - STEPS 2007

The percentage of people currently smoking tobacco products, such as cigarettes, cigars, or pipes were higher in males (32.8%) as compared to that of females (7.8%), and was 19.7% overall.

Table 23 Smoking status - Males

Smoking status							
Age Group (years)	Men						
	n	Current smoker				% Does not smoke	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	630	30.2	21.2-39.1	6.5	1.9-11.0	63.4	56.7-70.0
35-44	320	31.3	12.7-49.9	6.4	1.6-11.2	62.3	46.4-78.2
45-54	177	21.7	14.6-28.8	3.1	0.0-6.9	75.2	66.4-84.1
55-64	144	22.4	13.7-31.0	2.0	0.0-5.3	75.6	65.8-85.4
25-64	1271	27.6	20.2-35.0	5.2	1.5-8.8	67.2	62.0-72.5

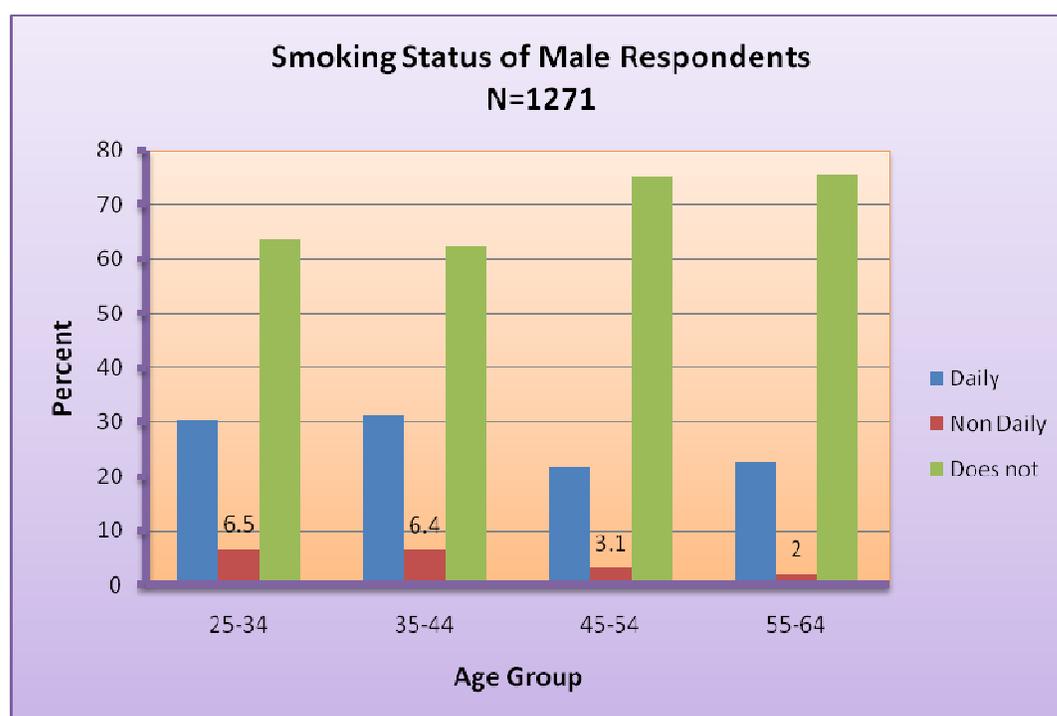


Figure 24 Smoking status of males - STEPS 2007

The percentage of men who currently smoke daily was 27.6%. The percentage of men who were non-daily smokers was 5.2%. While there were no significant differences between the age groups, the percentage of men who smoke (daily or non-daily) was greater in the younger age groups than the older age groups, indicating a trend towards increased prevalence of smoking in the population.

Table 24 Smoking status - Females

Smoking status							
Age Group (years)	Women						
	n	Current smoker				% Does not smoke	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	1159	2.9	0.9-4.9	2.4	0.7-4.2	94.7	92.3-97.0
35-44	685	7.5	1.5-13.4	1.9	1.4-2.4	90.6	84.3-96.9
45-54	500	6.5	0.0-13.5	1.1	0.0-2.3	92.4	84.8-100.0
55-64	350	9.7	0.0-19.5	1.9	0.0-4.1	88.5	79.4-97.5
25-64	2694	5.9	1.1-10.7	1.9	1.3-2.6	92.2	87.4-96.9

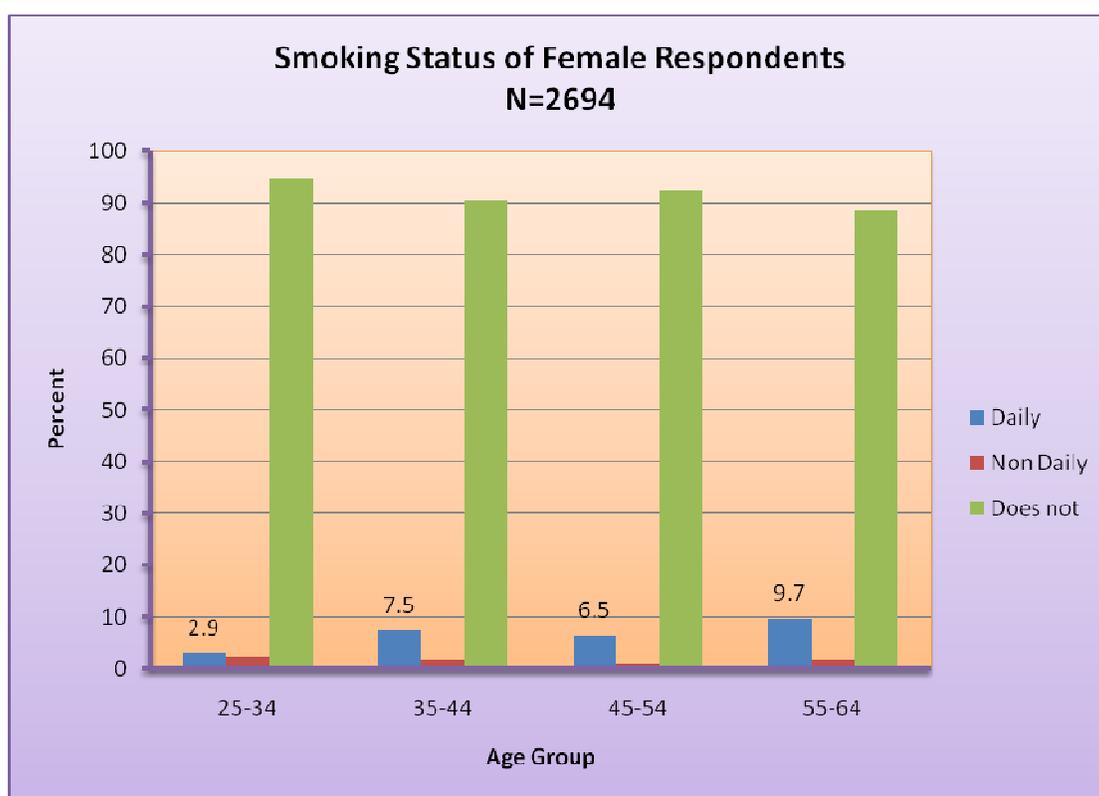


Figure 25 - Smoking status of females - STEPS 2007

Among females, 5.9% smoke daily and 1.9% smoke non-daily.

Table 25 Smoking status - Both sexes

Smoking status							
Age Group (years)	Both Sexes						
	n	Current smoker				% Does not smoke	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	1789	16.8	11.7-21.9	4.5	2.4-6.6	78.7	74.4-83.0
35-44	1005	18.3	11.9-24.7	3.9	1.7-6.2	77.8	73.1-82.5
45-54	677	13.6	7.5-19.8	2.0	0.0-4.4	84.4	77.1-91.7
55-64	494	15.2	8.5-21.9	1.9	0.2-3.6	82.9	75.0-90.7
25-64	3965	16.2	12.6-19.9	3.5	1.9-5.0	80.3	77.3-83.3

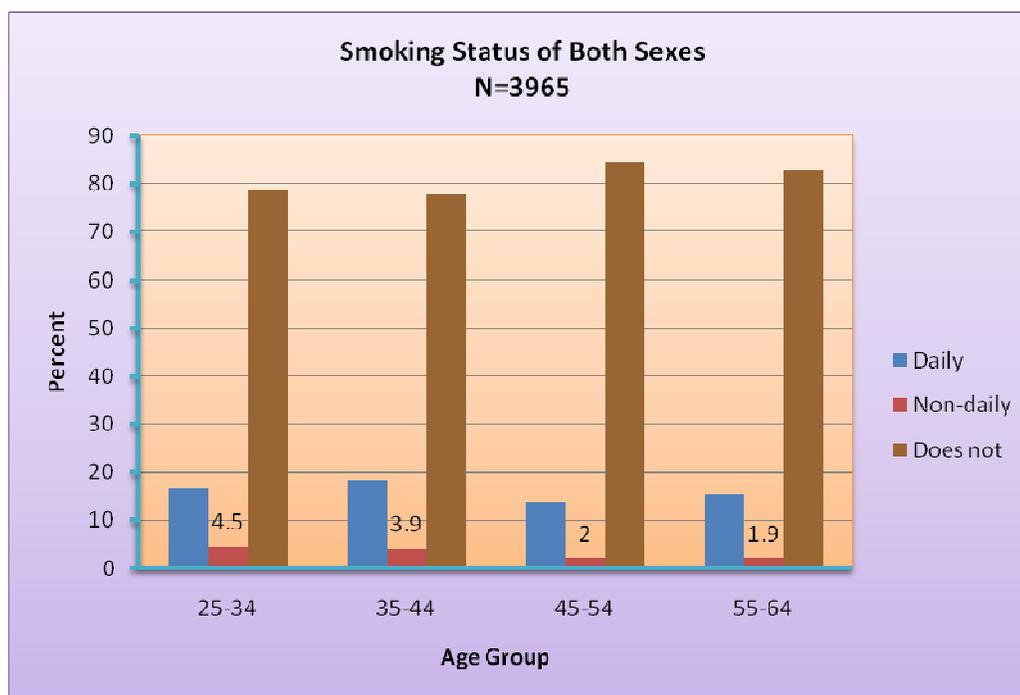


Figure 26 - Smoking status of both sexes - STEPS 2007

Among all respondents, 16.2% smoke daily and 3.5% smoke non-daily.

Table 26 Frequency of smoking

Frequency of smoking among smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	% Daily smokers	95% CI	n	% Daily smokers	95% CI	n	% Daily smokers	95% CI
25-34	219	82.3	68.8-95.9	57	54.4	26.6-82.2	276	78.9	67.7-90.2
35-44	108	83.0	65.8-100.0	69	79.7	69.3-90.2	177	82.3	69.3-95.3
45-54	49	87.5	74.4-100.0	44	85.7	70.7-100.0	93	87.0	74.9-99.1
55-64	36	91.8	79.7-100.0	44	83.6	58.2-100.0	80	88.7	81.4-95.9
25-64	412	84.3	71.9-96.6	214	75.6	58.5-92.7	626	82.5	73.7-91.3

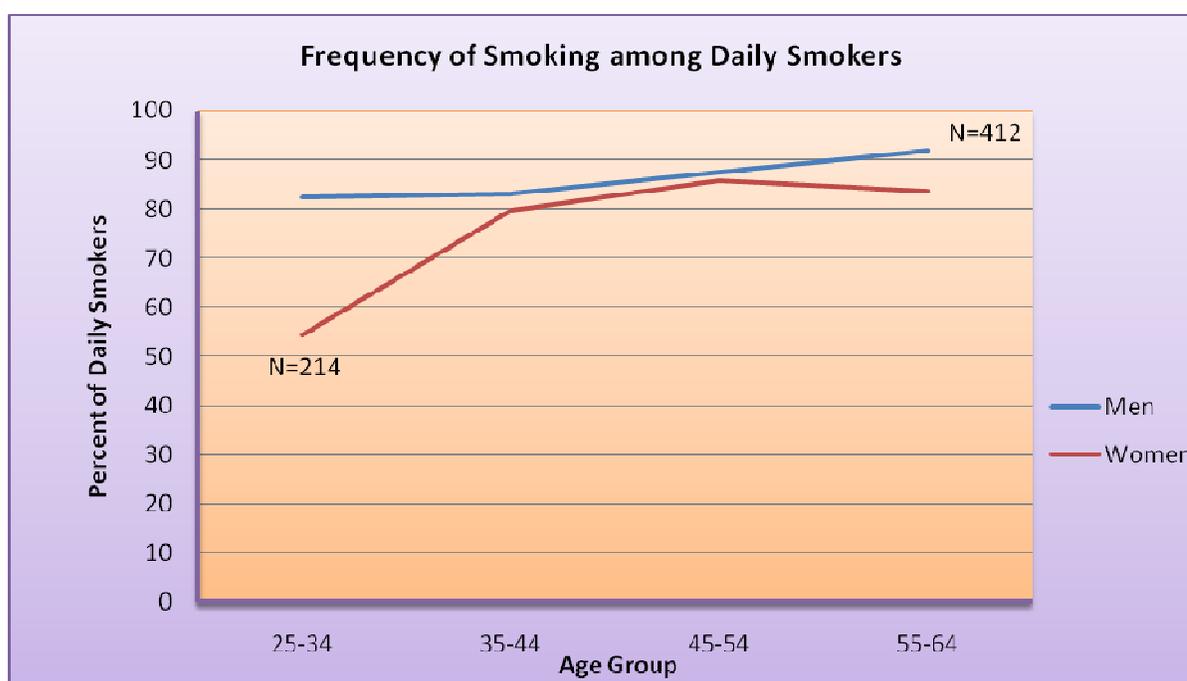


Figure 27 Percentage of daily smokers - STEPS 2007

The above data explains the percentage of daily smokers among all smokers by age group. While there is no significant difference between males and females, a greater percentage of male smokers are daily smokers (84.3%) than female smokers (75.6%). Older smokers were more likely to be daily smokers than younger smokers, though the differences between the age groups were not significant.

Table 27 Manufactured cig. smokers

Manufactured cigarette smokers among daily smokers									
Age Group (years)	Men			Women			Both Sexes		
	n	% Manu- factured cigarette smoker	95% CI	n	% Manu- factured cigarette smoker	95% CI	n	% Manu- factured cigarette smoker	95% CI
25-34	172	67.8	47.2-88.3	31	9.9	0.0-32.1	203	62.9	43.1-82.6
35-44	86	57.6	25.0-90.2	56	36.8	1.8-71.7	142	53.0	25.6-80.3
45-54	42	45.8	11.8-79.8	37	26.4	0.0-58.5	79	40.9	15.8-66.0
55-64	32	51.7	15.4-87.9	39	6.7	0.0-16.1	71	35.5	12.0-59.0
25-64	332	59.6	33.2-86.0	163	22.2	0.0-45.3	495	52.4	30.3-74.6

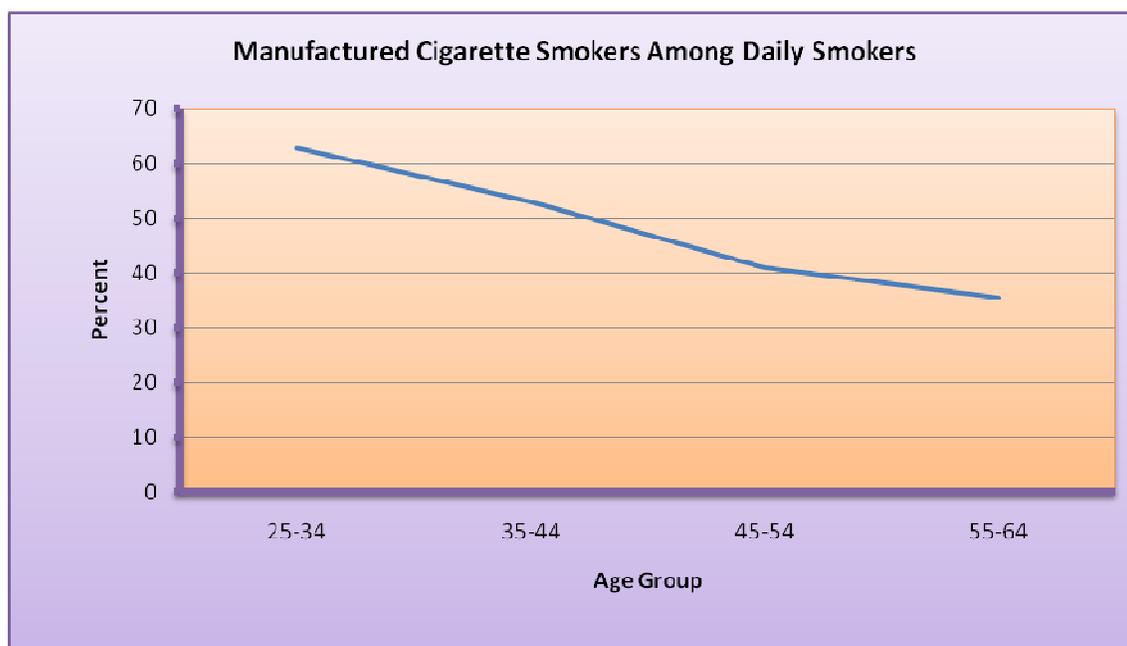


Figure 28 Manufactured cigarette smokers - STEPS 2007

The percentage of daily smokers who smoke manufactured cigarettes was higher among males (59.6%) than females (22.2%), though the difference between the sexes was not significant. There was a general, but non-significant, trend towards greater manufactured cigarette use in the younger age groups versus the older age groups..

Table 28 Mean tobacco used - Males

Mean amount of tobacco used by daily smokers and by type												
Age Group (years)	Men											
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI	n	Mean # of other type of tobacco	95% CI
25-34	130	5.9	4.5-7.3	25	2.1	--	22	0.4	--	22	0.3	0
35-44	60	8.9	6.2-11.6	10	4.8	--	6	0.0	--	7	1.8	0
45-54	25	9.0	5.1-13.0	8	4.7	--	6	0.0	--	8	3.5	0
55-64	20	7.2	4.2-10.2	10	5.6	--	3	0.0	--	3	0.0	0
25-64	235	7.2	5.4-9.1	53	3.9	--	37	0.2	--	40	1.5	0

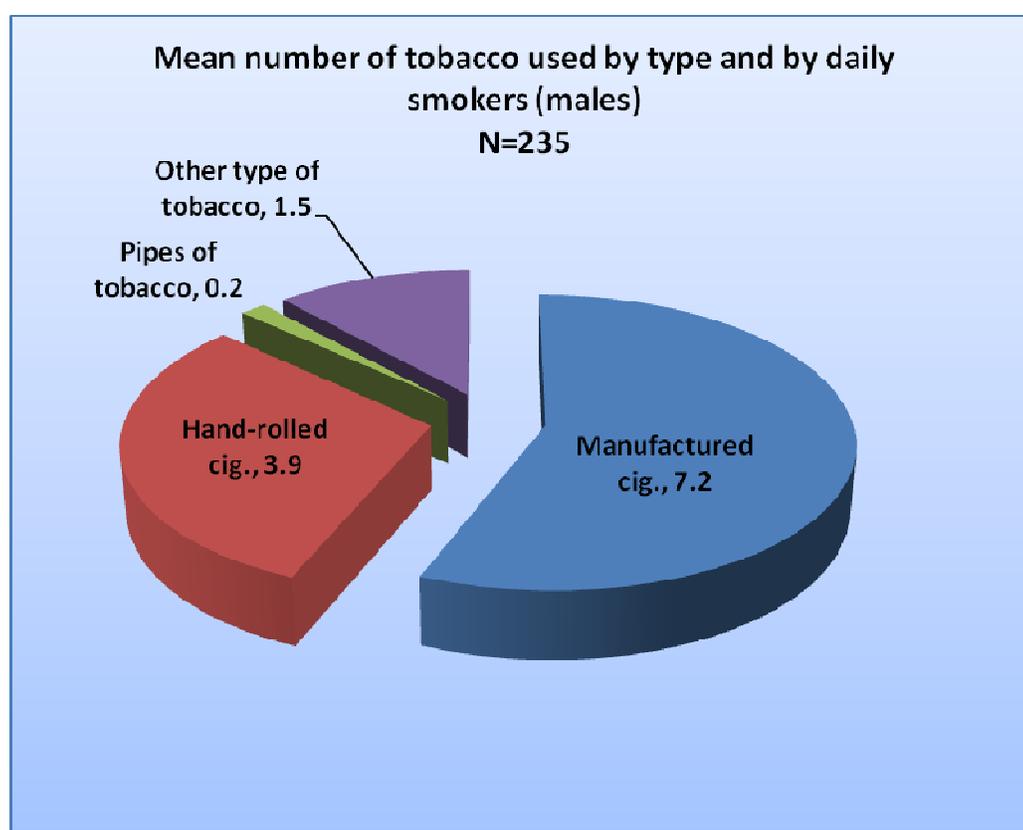


Figure 29 Mean number tobacco used by type – Males -STEPS 2007

The above table and figure shows the average number of tobacco type used by male daily smokers. Manufactured cigarettes followed by hand rolled were the favorite stuff for males

where as in females it was the vice versa please see table 29 and fig.31 below. There was none among females who used pipe for tobacco.

Table 29 Mean tobacco used - Females

Mean amount of tobacco used by daily smokers by type												
Age Group (years)	Women											
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI	n	Mean # of other type of tobacco	95% CI
25-34	5	6.8	--	2	6.6	-- --	--	--	--	3	1.5	0
35-44	24	6.1	3.1-9.0	8	5.6	-- --	--	--	--	9	1.8	0
45-54	10	3.6	2.6-4.6	0	0.0	-- --	--	--	--	6	3.8	0
55-64	3	3.7	2.4-5.1	1	5.0	-- --	--	--	--	10	3.2	0
25-64	42	5.2	3.2-7.2	11	5.7	-- --	--	--	--	28	2.7	0

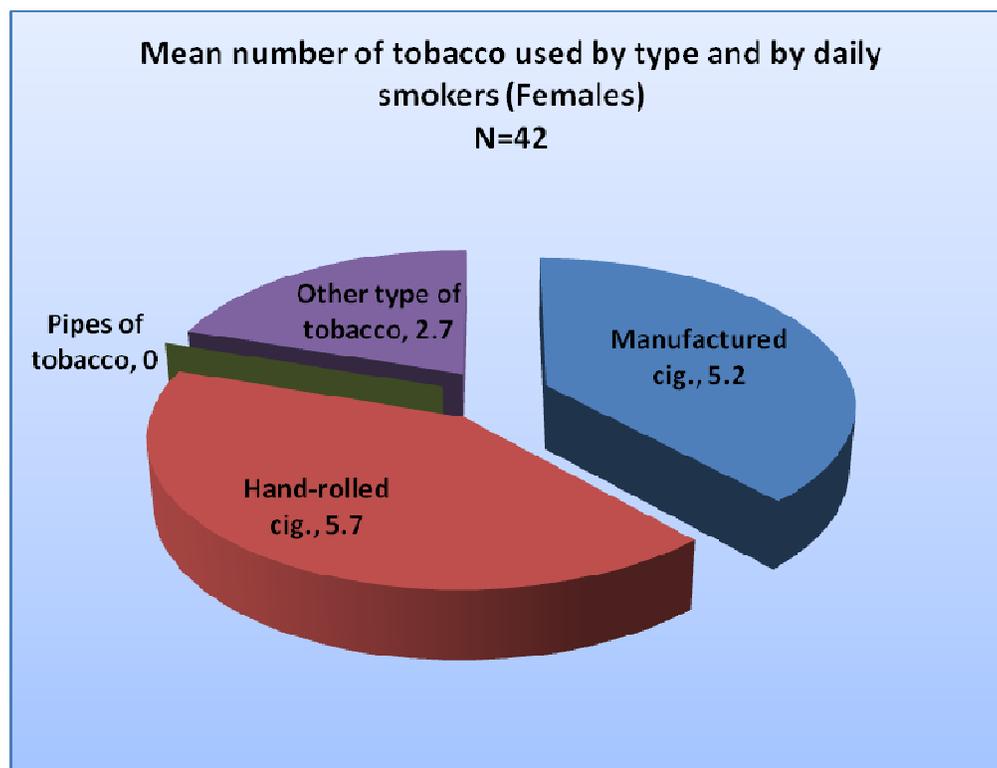


Figure 30 Mean number tobacco used - Females - STEPS 2007

Table 30 Mean tobacco used - Both sexes

Mean amount of tobacco used by daily smokers by type												
Age Group (years)	Both Sexes											
	n	Mean # of manufactured cig.	95% CI	n	Mean # of hand-rolled cig.	95% CI	n	Mean # of pipes of tobacco	95% CI	n	Mean # of other type of tobacco	95% CI
25-34	135	5.9	4.5-7.3	27	2.2	--	23	0.4	--	25	0.4	0
35-44	84	8.4	5.9-11.0	18	5.0	--	10	0.0	--	16	1.8	0
45-54	35	8.2	5.0-11.4	8	4.7	--	6	0.0	--	14	3.6	0
55-64	23	7.0	4.3-9.7	11	5.6	--	3	0.0	--	13	2.2	0
25-64	277	7.1	5.3-8.8	64	4.1	--	42	0.2	--	68	1.9	0

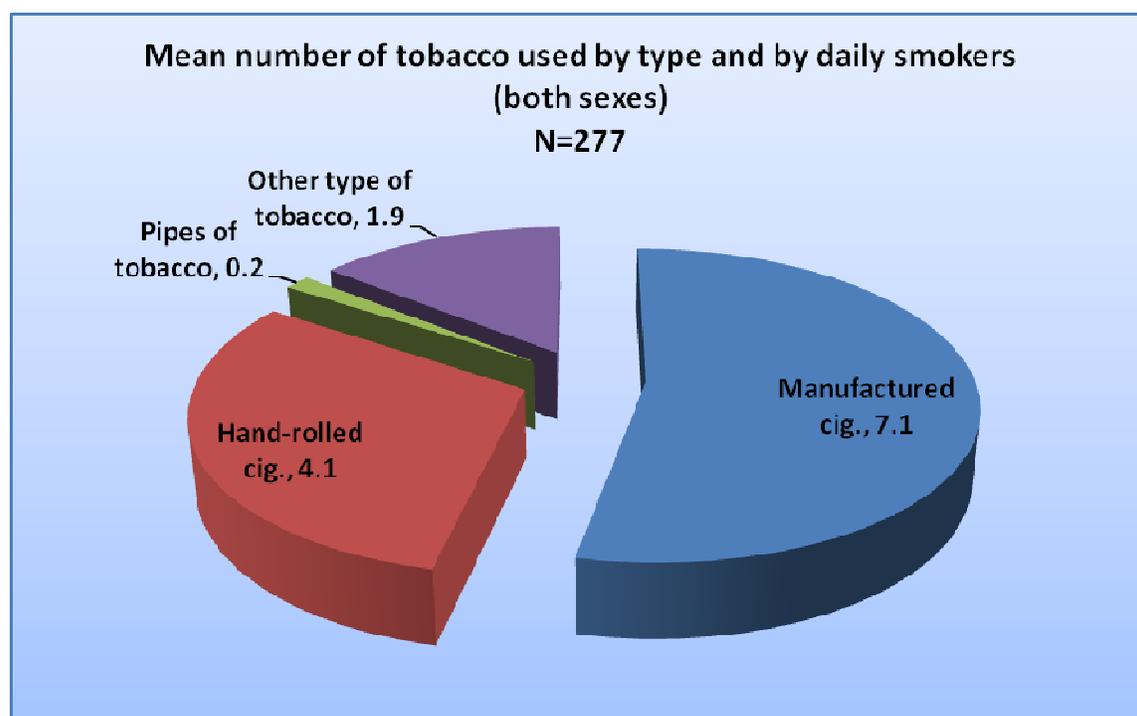


Figure 31 Mean tobacco use - both sexes - STEPS 2007

Manufactured and hand rolled cigarettes were consumed 7 and 4/day respectively by male and female respondents of the STEPS survey.

Table 31 Age of initiation

Mean age in years started smoking (initiation)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean age	95% CI	n	Mean age	95% CI	n	Mean age	95% CI
25-34	147	20.3	19.5-21.1	21	22.6	21.2-24.0	168	20.5	19.8-21.1
35-44	70	20.8	19.8-21.8	43	29.6	25.2-34.1	113	22.8	20.8-24.7
45-54	28	25.5	23.4-27.6	28	36.1	30.4-41.9	56	28.3	25.5-31.2
55-64	18	28.1	18.6-37.5	25	36.8	27.8-45.7	43	31.6	25.3-37.9
25-64	263	21.8	21.2-22.4	117	31.8	27.2-36.4	380	23.6	21.6-25.6

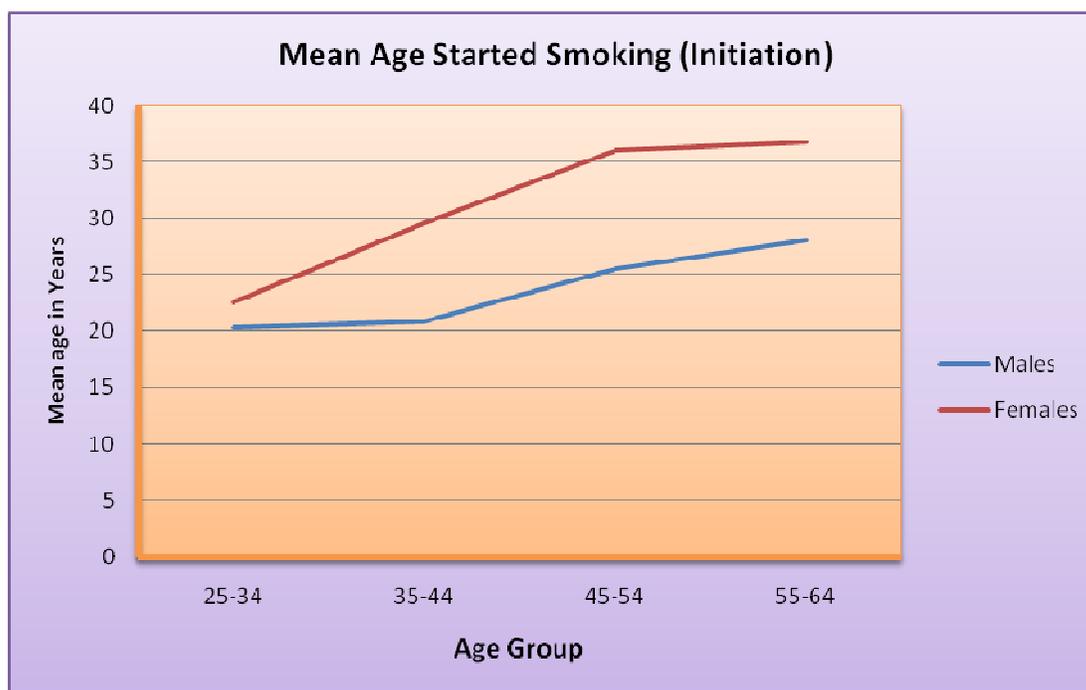


Figure 32 - Age started smoking - STEPS 2007

The mean age of **smoking initiation** for men and women is wide apart that men start as early as 21 years of age while females at the age of 31. It is observed that initiation continues to occur in both sexes with increasing ages.

Table 32 Duration of smoking

Mean duration of smoking (years)									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean duration	95% CI	n	Mean duration	95% CI	Mean duration	95% CI	
25-34	147	8.7	7.9-9.5	21	6.9	4.7-9.0	168	8.6	8.0-9.2
35-44	70	18.6	17.6-19.6	43	10.2	6.6-13.9	113	16.7	15.1-18.3
45-54	28	23.4	20.4-26.4	28	13.5	7.8-19.3	56	20.8	17.6-24.0
55-64	18	30.0	20.4-39.6	25	21.6	13.5-29.8	43	26.5	19.9-33.2
25-64	263	15.3	13.6-16.9	117	13.1	9.5-16.8	380	14.9	13.4-16.4

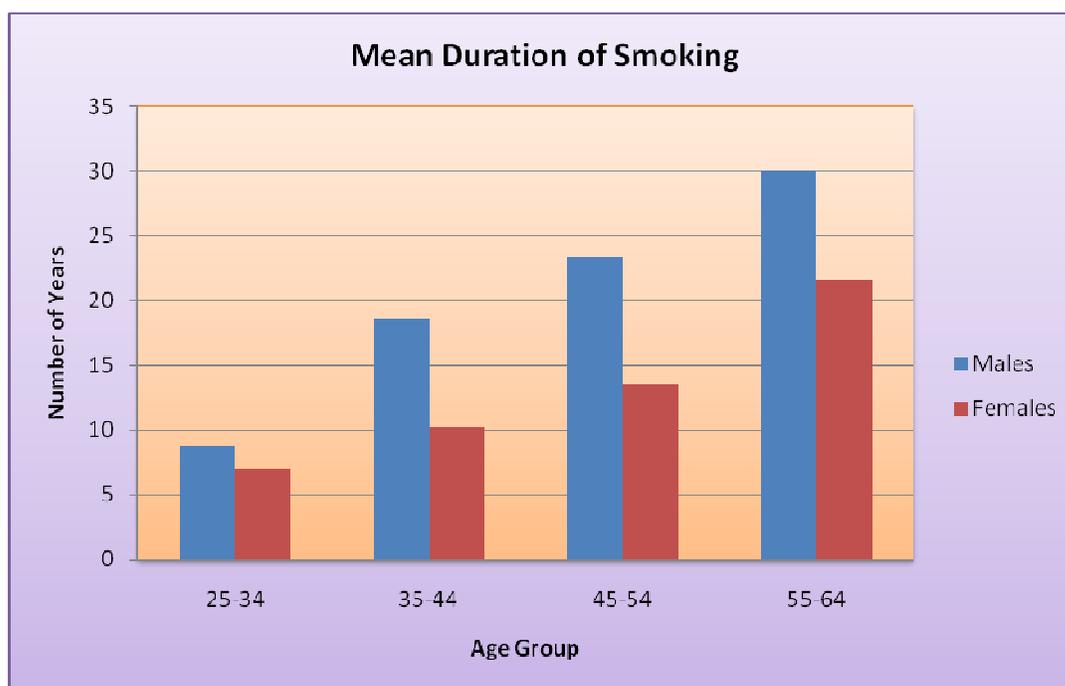


Figure 33 Mean duration of smoking - STEPS 2007

There was no marked difference in the mean duration of smoking among males and females. Their means fall between 9.5 – 16.9 years. One can still note that there was no indication of cessation of smoking as the age increased.

Table 33 Ex-daily smokers

Ex-daily smokers among all respondents											
Age Group (years)	Men				Women				Both Sexes		
	n	% ex daily smokers	95% CI		n	% ex daily smokers	95% CI		n	% ex daily smokers	95% CI
25-34	450	12.5	5.9-19.2		1117	1.2	0.7-1.8		1567	6.1	3.3-8.9
35-44	233	17.2	8.9-25.5		624	1.8	0.0-3.7		857	7.7	4.0-11.5
45-54	134	25.4	19.4-31.5		461	1.6	0.1-3.2		595	11.7	8.2-15.3
55-64	110	25.1	14.1-36.1		309	1.8	0.5-3.0		419	10.9	6.2-15.7
25-64	927	18.3	11.6-25.0		2511	1.5	0.8-2.2		3438	8.5	5.5-11.4

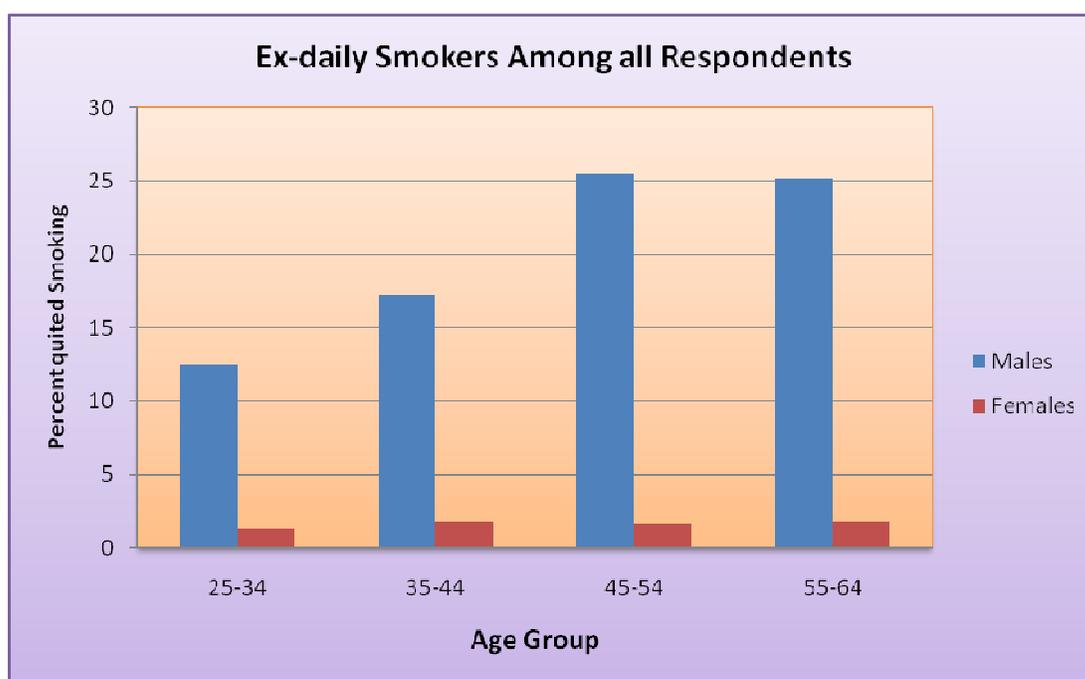


Figure 34 Ex-daily smokers - STEPS 2007

The ex-daily smokers in males was 18% and in females 1.3%. This means that females continue to smoke without interruption for years, while males do stop during their life time.

Table 34 Years since cessation

Mean years since cessation

Age Group (years)	Men				Women				Both Sexes			
	n	Mean years	95% CI		n	Mean years	95% CI		n	Mean years	95% CI	
25-34	6	12.3	8.6	16.0	--	--	--	--	6	12.3	8.6	16.0
35-44	6	15.6	11.9	19.4	2	19.4	12.7	26.0	8	16.2	12.2	20.2
45-54	12	21.0	16.1	25.8	3	15.2	9.9	20.6	15	20.6	16.4	24.8
55-64	8	23.8	16.9	30.8	1	25.0	----	----	9	23.9	17.2	30.6
25-64	32	19.9	17.0	22.8	6	17.9	13.6	22.2	38	19.8	17.0	22.5

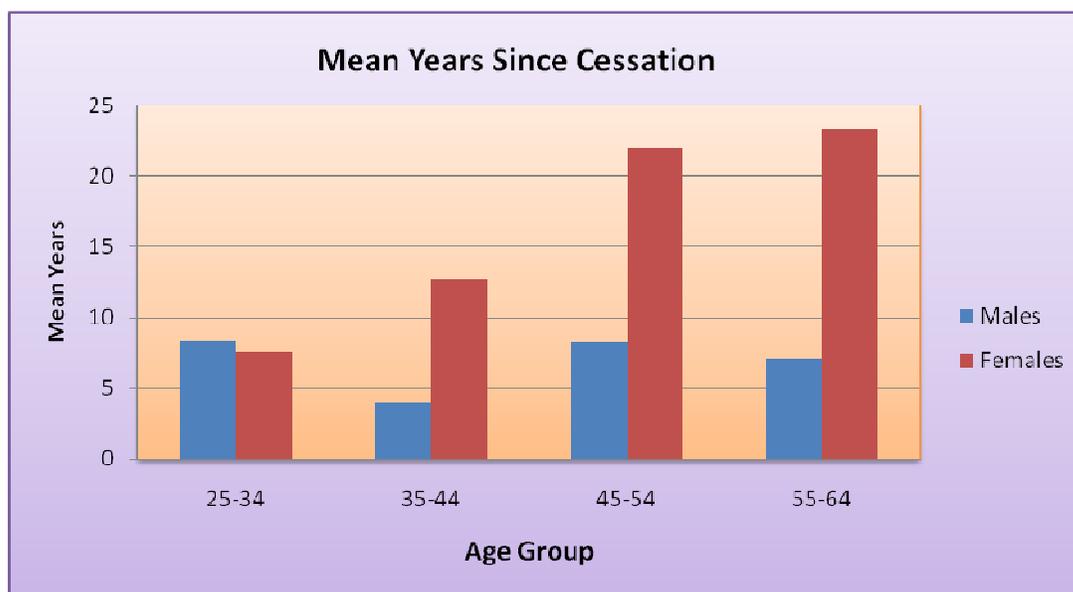


Figure 35 Mean years since cessation of smoking - STEPS 2007

The mean number of years since cessation for both male and females had no difference. They both lie between the 95% confidence interval 13.6 – 22.8.

Table 35 Users of smokeless tobacco

Age Group (years)	Current users of smokeless tobacco								
	Men			Women			Both Sexes		
	n	% Current users	95% CI	n	% Current users	95% CI	n	% Current users	95% CI
25-34	567	8.4	4.2-12.6	1095	7.5	4.5-10.6	1662	8.0	5.1-10.9
35-44	282	4.0	0.2-7.9	641	12.7	9.6-15.8	923	8.9	7.5-10.3
45-54	168	8.3	3.0-13.6	469	21.9	10.4-33.4	637	15.4	8.7-22.2
55-64	131	7.1	0.6-13.6	339	23.2	14.1-32.2	470	16.4	11.6-21.1
25-64	1148	7.2	3.8-10.6	2544	14.5	9.3-19.6	3692	11.1	8.8-13.3

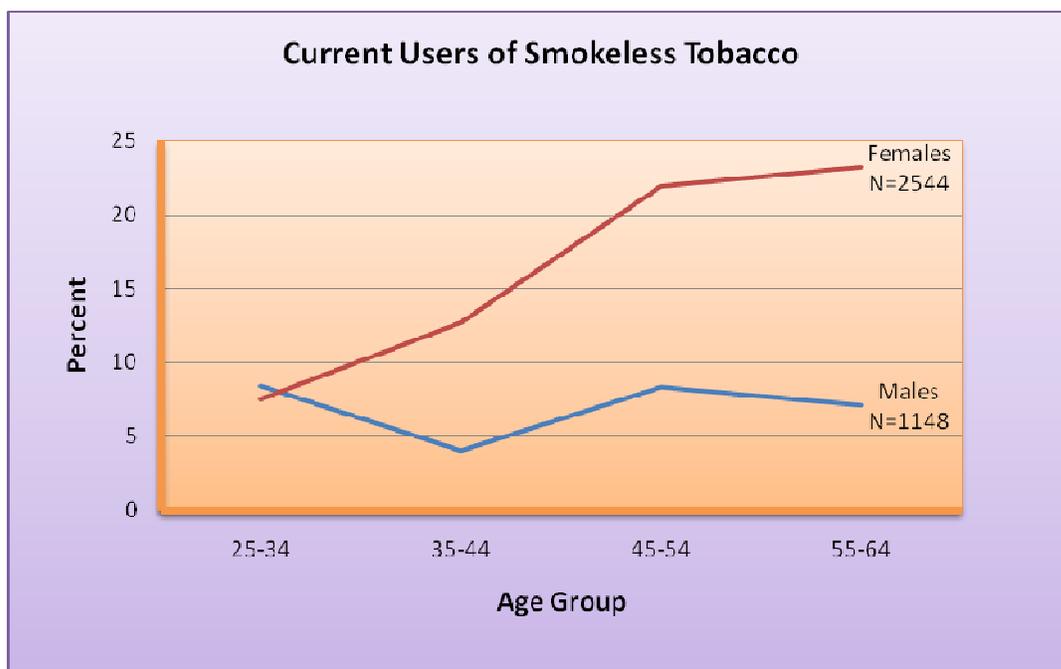


Figure 36 Users of smokeless tobacco - STEPS 2007

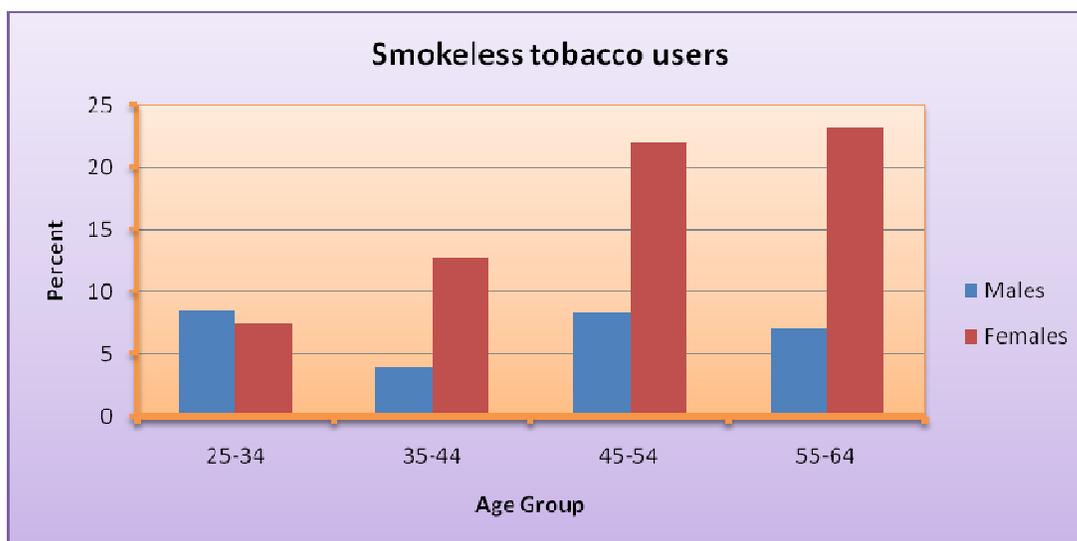


Figure 37 smokeless tobacco users by sex & age group -- STEPS 2007

Smokeless tobacco use such as snuff, chewing tobacco, betel was higher in females than in males. The more females got older the more they utilized smokeless tobacco as demonstrated in Table 35 and Figures 37, 38

Table 36 Smokeless tobacco use - Males

Smokeless tobacco use							
Age Group (years)	Men						
	n	Current user				% Does not use smokeless tobacco	
		% Daily	95% CI	% Non-daily	95% CI	95% CI	95% CI
25-34	567	2.4	0.0-5.2	6.0	0.0-12.6	91.6	87.4-95.8
35-44	282	0.0	0.0-0.0	4.0	0.2-7.9	96.0	92.1-99.8
45-54	168	3.7	1.9-5.6	4.6	1.0-8.1	91.7	86.4-97.0
55-64	131	3.2	0.0-8.1	3.9	0.0-10.7	92.9	86.4-99.4
25-64	1148	2.2	0.7-3.8	5.0	0.8-9.1	92.8	89.4-96.2

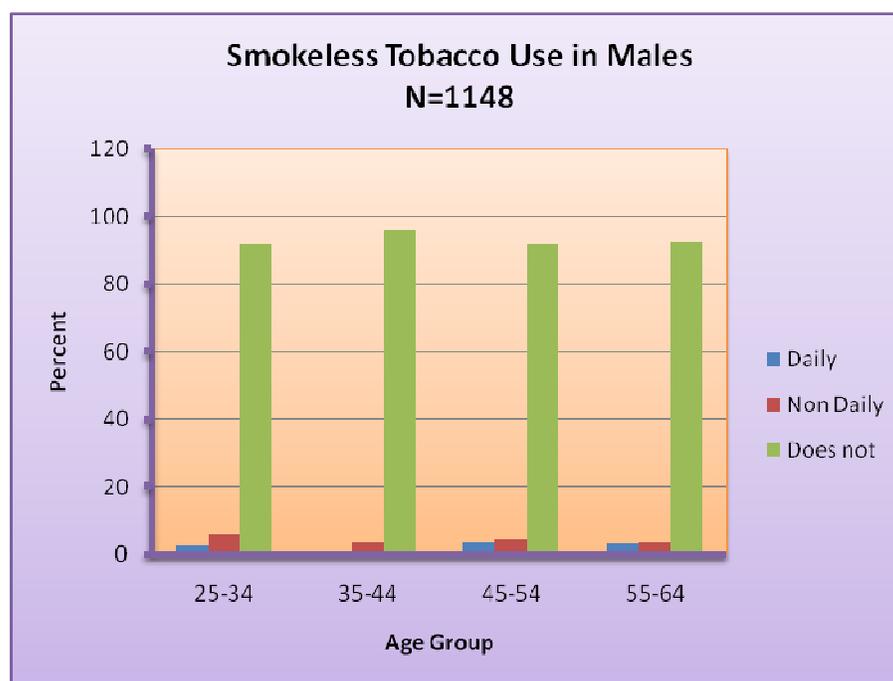


Figure 38 Smokeless tobacco use in males - STEPS 2007

The percentage of male current smokeless tobacco users were 7.2% (daily 2.2% and non-daily 5.0%). The rest or 92.8% of the respondents does not use smokeless tobacco.

Table 37 Smokeless tobacco use - Females

Smokeless tobacco use							
Age Group (years)	Women						
	n	Current user				% Does not use smokeless tobacco	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	1095	3.0	0.3-5.7	4.6	0.2-8.9	92.5	89.4-95.5
35-44	641	8.1	2.4-13.9	4.6	1.4-7.7	87.3	84.2-90.4
45-54	469	14.6	2.2-27.0	7.3	3.7-10.8	78.1	66.6-89.6
55-64	339	16.3	11.0-21.5	6.9	0.4-13.4	76.8	67.8-85.9
25-64	2544	8.9	2.3-15.6	5.5	2.0-9.0	85.5	80.4-90.7

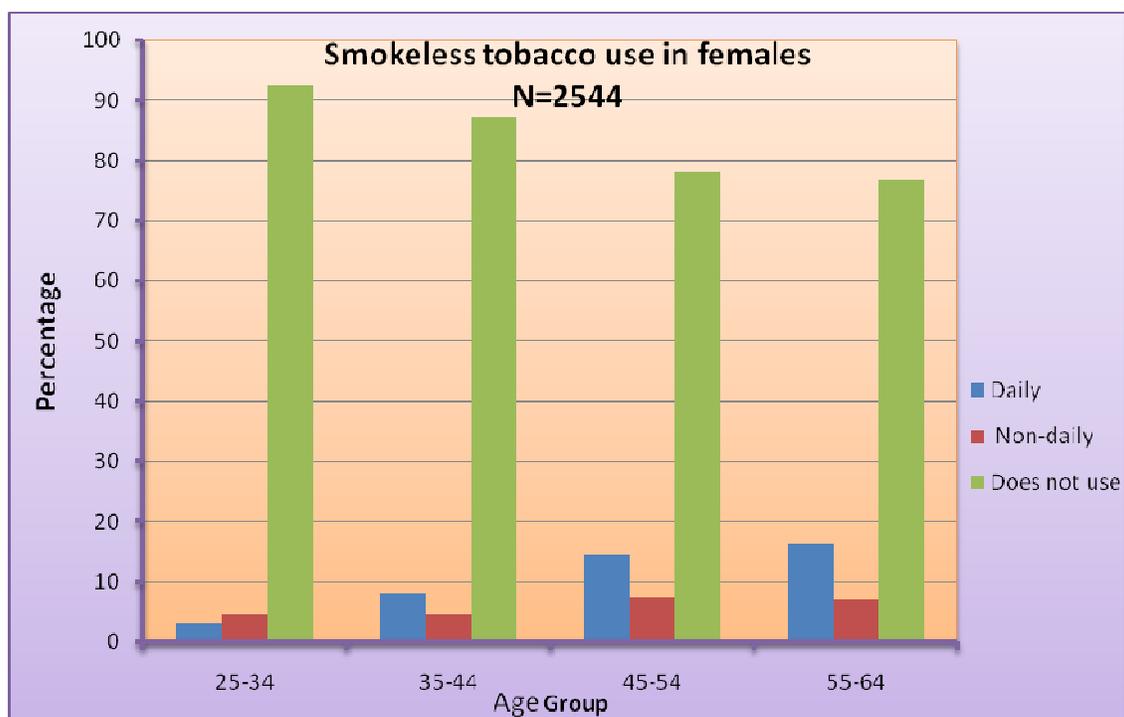


Figure 39 Smokeless tobacco use in females- STEPS 2007

Smokeless tobacco use in females was 14.4%, and those who does not use smokeless

tobacco were 85.5%.

Table 38 Smokeless tobacco use - Both sexes

Smokeless tobacco use							
Age Group (years)	Both Sexes						
	n	Current user				% Does not use smokeless tobacco	95% CI
		% Daily	95% CI	% Non-daily	95% CI		
25-34	1662	2.7	0.2-5.2	5.3	0.5-10.1	92.0	89.1-94.9
35-44	923	4.6	0.9-8.3	4.3	1.0-7.7	91.1	89.7-92.5
45-54	637	9.4	2.7-16.2	6.0	4.0-8.0	84.6	77.8-91.3
55-64	470	10.7	8.3-13.2	5.6	0.0-11.6	83.6	78.9-88.4
25-64	3692	5.8	1.6-10.1	5.3	1.8-8.7	88.9	86.7-91.2

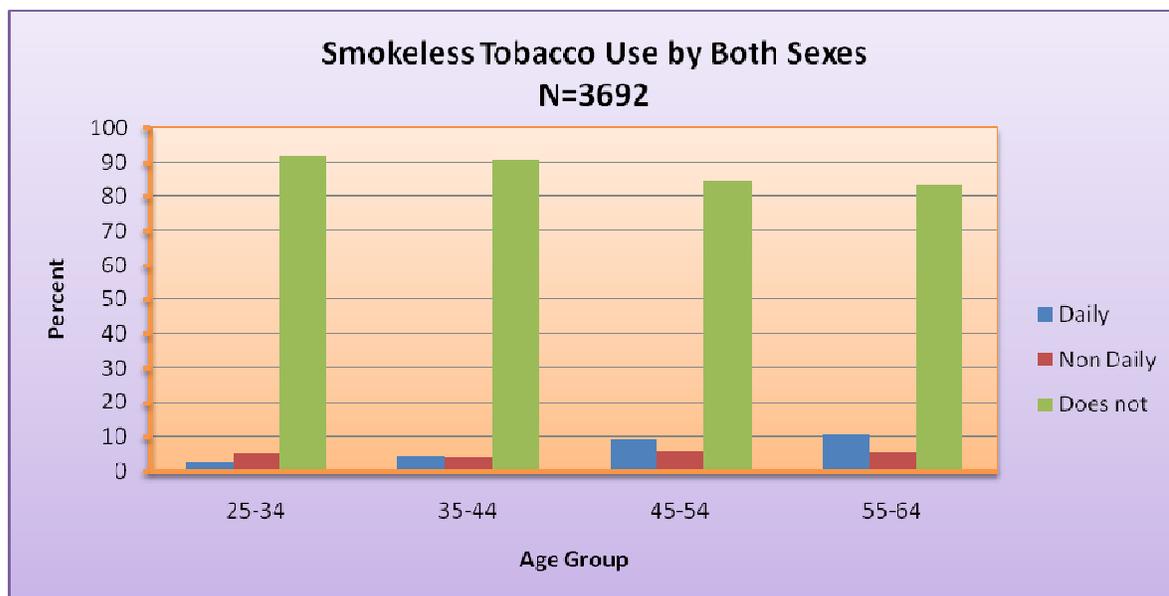


Figure 40 Smokeless tobacco use in both sexes - STEPS 2007

11% of the population uses smokeless tobacco while 89% don't.

Table 39 Ex-daily smokeless tobacco users

Ex-daily smokeless tobacco users

Age Group (years)	Men			Women			Both Sexes		
	n	% Ex daily users	95% CI	n	% Ex daily users	95% CI	n	% Ex daily users	95% CI
25-34	529	1.1	0.1-2.1	1000	1.0	0.0-2.0	1529	1.0	0.4-1.7
35-44	276	0.5	0.0-1.7	560	3.7	1.9-5.6	836	2.2	0.6-3.8
45-54	154	1.8	0.0-5.1	406	5.7	2.0-9.3	560	3.7	1.7-5.8
55-64	119	0.9	0.0-3.5	259	4.8	1.1-8.5	378	3.0	0.3-5.6
25-64	1078	1.1	0.0-2.2	2225	3.2	1.5-4.9	3303	2.2	1.3-3.1

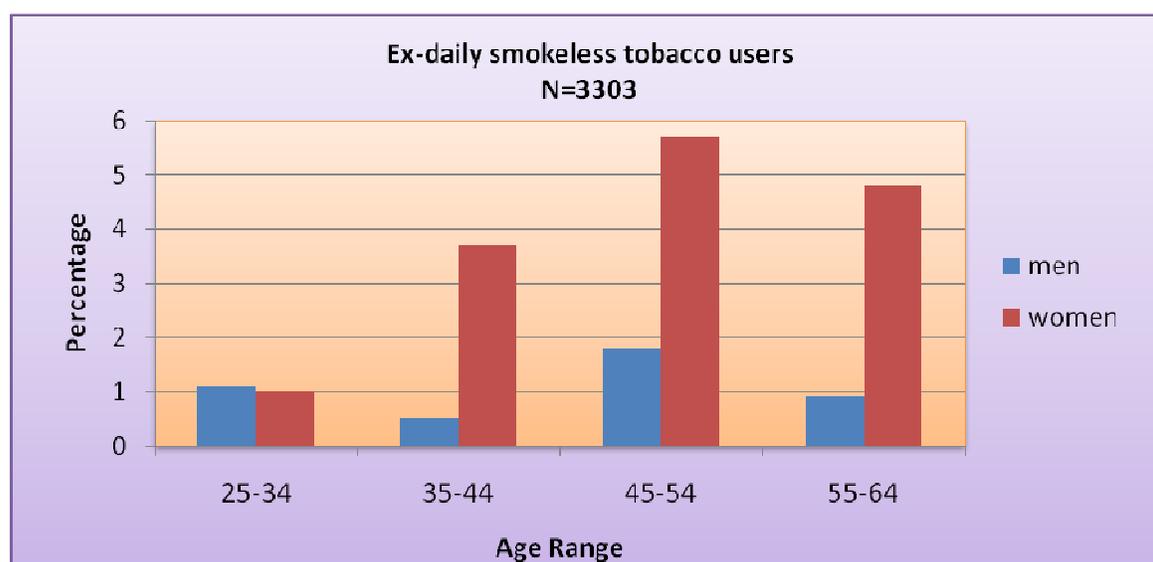


Figure 41 Ex-daily smokeless tobacco users - STEPS 2007

The percentage of ex-daily smokeless tobacco users in the population is higher in the females (3.2%) and very much low in males (1.1%).

Table 40 Smokeless tobacco by type - Males

Age Group (years)	Mean times per day smokeless tobacco used by daily smokeless tobacco users by type											
	Men						Women					
	n	Snuff by mouth	95% CI	N	Snuff by nose	95% CI	n	Chewing tobacco	95% CI	n	Betel, quid	95% CI
25-34	--	--	--	4	2.7	0.0	--	--	--	--	--	--
35-44	--	--	--	--	--	0.0	--	--	--	--	--	--
45-54	--	--	--	4	7.1	0.0	--	--	--	--	--	--
55-64	1	0.0	0.0	2	1.3	0.0	--	--	--	--	--	--
25-64	1	0.0	0.0	10	4.2	0.0	--	--	--	--	--	--

Table 41 Smokeless tobacco by type - Females

Mean times per day smokeless tobacco used by daily smokeless tobacco users by type												
Age Group (years)	Women											
	n	Snuff by mouth	95% CI	N	Snuff by nose	95% CI	n	Chewing tobacco	95% CI	n	Betel, quid	95% CI
25-34	1	1.0	0.0	14	3.5	2.9-4.1	--	--	--	--	--	--
35-44	4	2.4	0.0	23	4.5	3.9-5.0	--	--	--	--	--	--
45-54	4	5.2	0.0	31	3.8	3.2-4.3	--	--	--	--	--	--
55-64	13	3.8	0.0	26	3.9	2.0-5.9	--	--	--	--	--	--
25-64	22	3.8	0.0	94	4.0	3.5-4.4	--	--	--	--	--	--

Table 42 Smokeless tobacco by type - Both sexes

Mean times per day smokeless tobacco used by daily smokeless tobacco users by type												
Age Group (years)	Both Sexes											
	n	Snuff by mouth	95% CI	N	Snuff by nose	95% CI	n	Chewing tobacco	95% CI	n	Betel, quid	95% CI
25-34	1	1.0	0.0	18	3.2	1.7-4.6	--	--	--	--	--	--
35-44	4	2.4	0.0	23	4.5	3.9-5.0	--	--	--	--	--	--
45-54	4	5.2	0.0	35	4.3	3.2-5.4	--	--	--	--	--	--
55-64	14	3.3	0.0	28	3.7	1.7-5.6	--	--	--	--	--	--
25-64	23	3.5	0.0	104	4.0	3.6-4.4	--	--	--	--	--	--

Mean times per day smokeless tobacco used by daily smokeless tobacco users were negligent. The number of respondents was very small and not conclusive. The small data listed indicates that 4.2% of males use snuff by nose only while the females used snuff by mouth and nose on average 4 times each in a day.

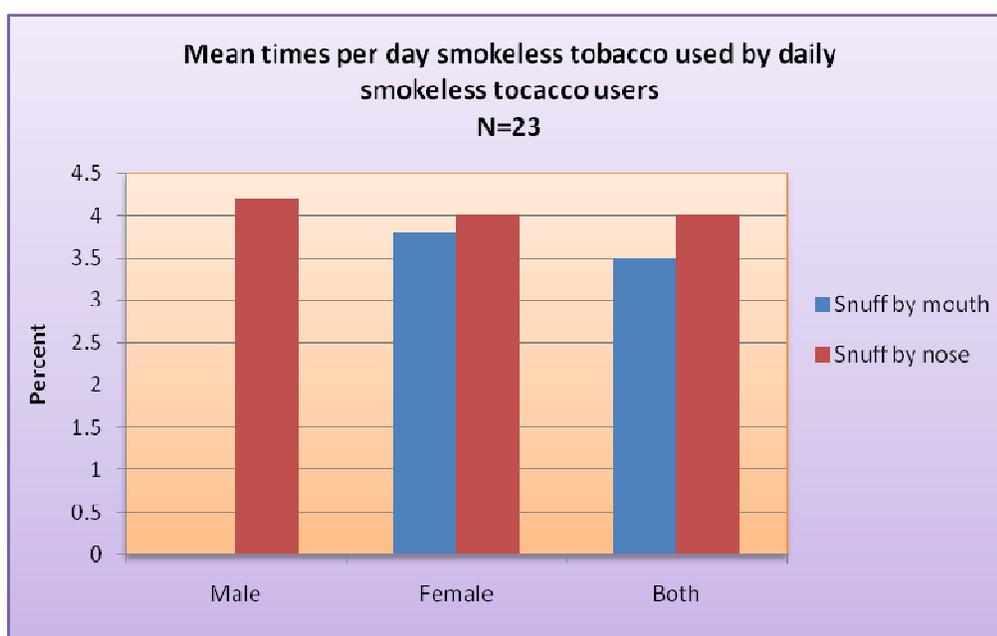


Figure 42 Mean times smokeless tobacco used - STEPS 2007

Table 43 Daily tobacco users

Current Daily tobacco users									
Age Group (years)	Men			Women			Both Sexes		
	n	% Daily users	95% CI	n	% Daily users	95% CI	n	% Daily users	95% CI
25-34	564	31.7	19.6-43.8	1087	4.8	2.0-7.6	1651	18.2	10.6-25.8
35-44	279	28.7	10.3-47.0	637	13.3	8.4-18.1	916	20.0	10.9-29.0
45-54	166	26.4	20.4-32.4	462	18.4	6.4-30.4	628	22.2	17.2-27.3
55-64	129	24.1	20.3-27.8	336	21.7	13.8-29.6	465	22.7	17.5-28.0
25-64	1138	28.8	21.0-36.6	2522	12.6	6.2-19.0	3660	20.2	13.4-27.0

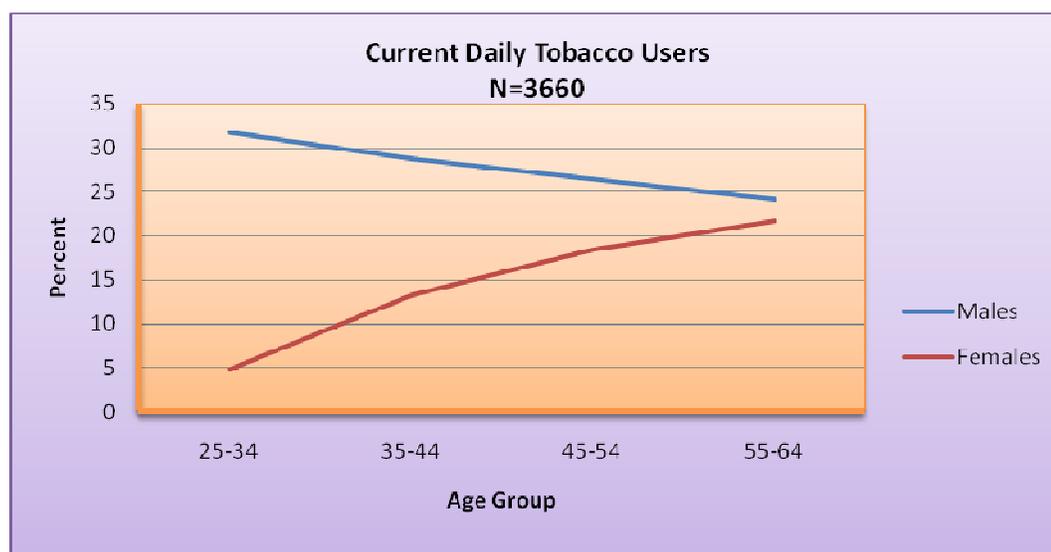


Figure 43 Current daily tobacco users - STEPS 2007

The data in Table 44 includes all respondents who were current tobacco users on daily and non-daily basis, whether they use smoking or smokeless tobacco type. The percentage of male

tobacco users is 2 fold higher than the females. The daily use is shown decreasing in males and increasing in females as their age increases.

Table 44 Tobacco users - daily or nondaily

Current tobacco users (Daily or non-daily)									
Age Group (years)	Men			Women			Both Sexes		
	n	% Current users	95% CI	n	% Current users	95% CI	n	% Current users	95% CI
25-34	564	41.1	35.3-46.8	1087	11.2	7.8-14.6	1651	26.1	21.9-30.3
35-44	279	38.4	25.4-51.4	637	18.5	13.6-23.4	916	27.2	21.0-33.3
45-54	166	33.1	25.2-41.1	462	24.9	13.5-36.3	628	28.8	24.8-32.8
55-64	129	28.6	22.1-35.1	336	27.4	16.0-38.9	465	27.9	20.1-35.8
25-64	1138	37.1	33.4-40.7	2522	18.6	12.6-24.7	3660	27.2	22.8-31.7

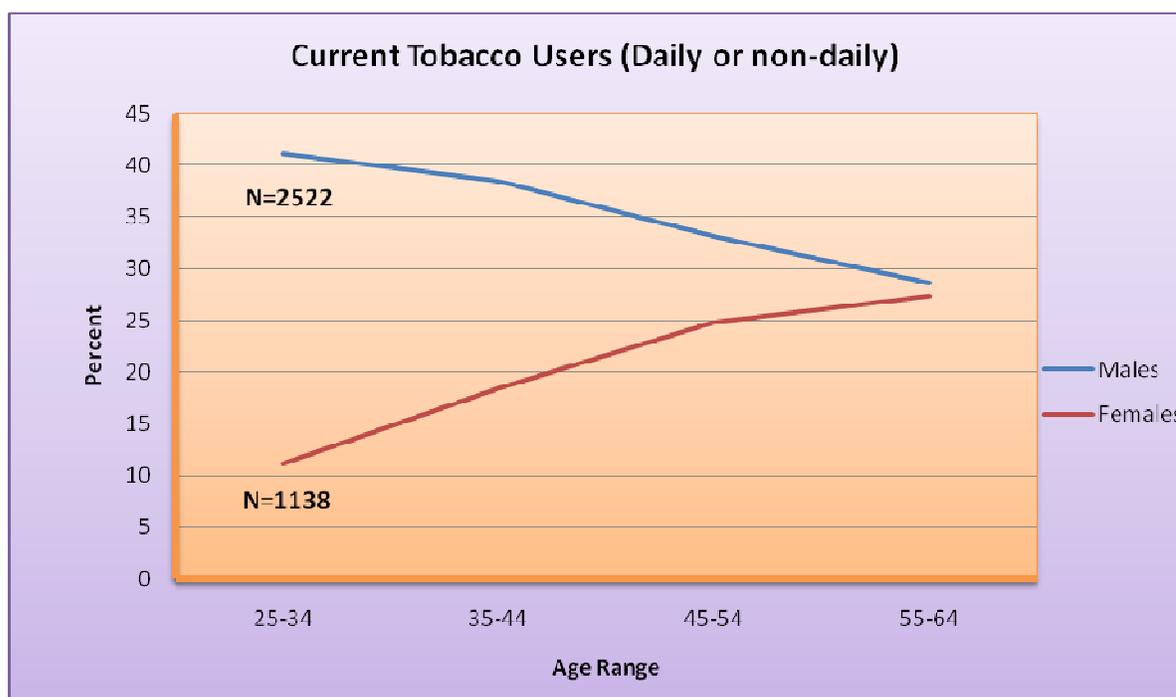


Figure 44 Current tobacco users - STEPS 2007

The current tobacco users in males are twice that of females. Females tend to maintain using tobacco though out their ages.

ALCOHOL CONSUMPTION

Table 45 Alcohol consumption - Males

Alcohol consumption status							
Age Group (years)	Men						
	n	% Current drinker (last 30 days)	95% CI	% Drank in last 12 months, not current	95% CI	% Abstainer	95% CI
25-34	576	35.2	29.8-40.6	12.8	6.1-19.5	52.0	48.8-55.2
35-44	293	33.7	24.5-42.8	11.6	6.5-16.6	54.8	43.6-65.9
45-54	171	22.4	8.3-36.5	10.5	6.3-14.7	67.1	50.0-84.2
55-64	131	22.5	17.8-27.3	14.8	5.7-23.9	62.7	54.9-70.4
25-64	1171	30.3	26.3-34.3	12.2	9.0-15.4	57.5	53.6-61.3

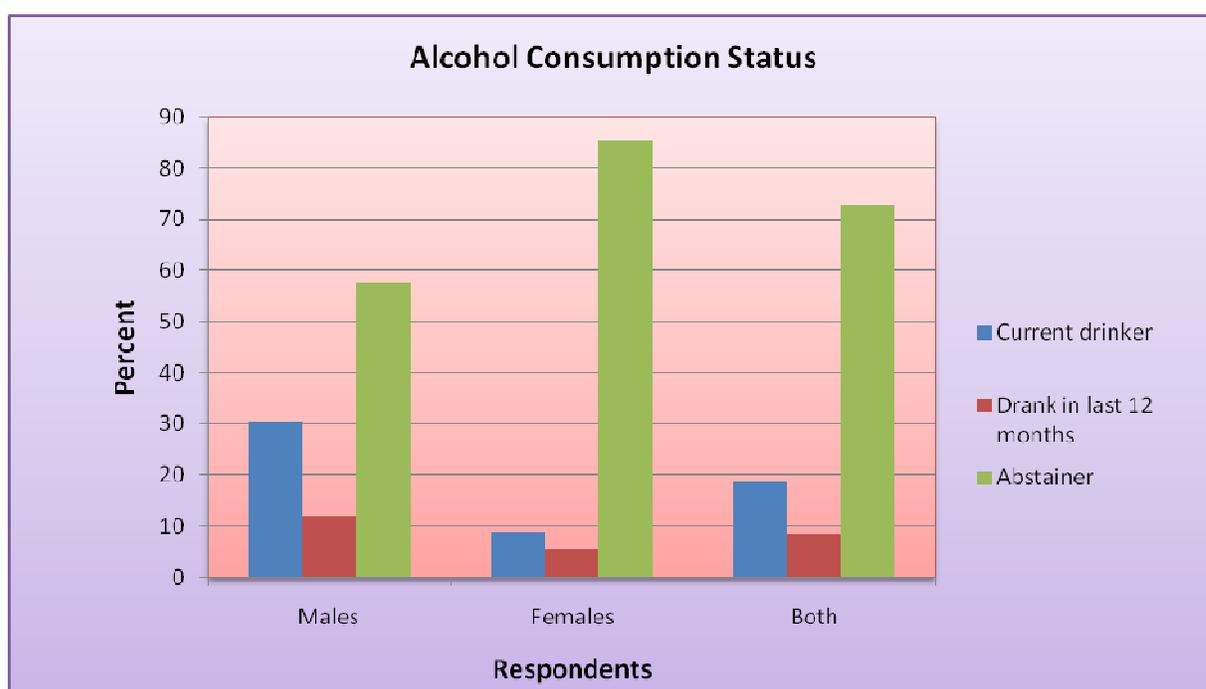


Figure 45 Alcohol consumption status in males & females- STEPS 2007

Male respondents who consumed alcohol such as beer, wine, spirits, local alcoholic drinks, chibuku within the past one month were 30.3% and within the past one year were 12.2% Female current alcohol drinkers were 8.8% and those who drank in the last 12 months were 5.6%. This shows that it was lower than the male respondents.

Table 46 Alcohol consumption - Females

Age Group (years)	Alcohol consumption status						
	n	% Current drinker (last 30 days)	95% CI	% Drank in last 12 months, not current	95% CI	% Abstainer	95% CI
25-34	1127	9.3	5.1-13.6	5.1	3.8-6.4	85.6	81.2-90.0
35-44	660	9.6	7.3-11.9	5.8	4.6-7.1	84.5	82.1-87.0
45-54	496	6.4	5.1-7.7	6.5	2.5-10.5	87.1	82.9-91.3
55-64	341	9.8	6.2-13.3	5.1	1.6-8.5	85.2	82.9-87.5
25-64	2624	8.8	6.7-10.8	5.6	3.9-7.3	85.6	83.2-88.0

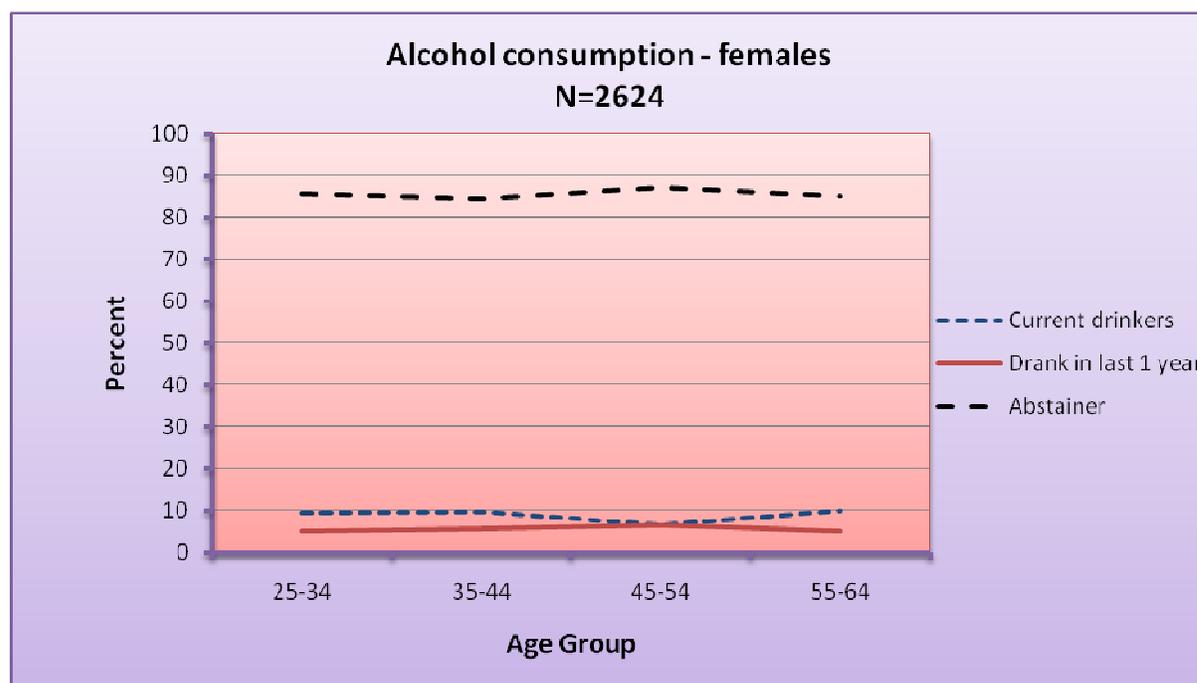


Figure 46 Alcohol consumption status in females - STEPS 2007

Alcohol consumption in females of all age groups remains to be less than 10%.

Table 47 Alcohol consumption - Both Sexes

Alcohol consumption status							
Age Group (years)	Both Sexes						
	n	% Current drinker (last 30 days)	95% CI	% Drank in last 12 months, not current	95% CI	% Abstainer	95% CI
25-34	1703	22.1	18.9-25.2	8.9	5.3-12.5	69.0	65.8-72.3
35-44	953	20.3	15.5-25.1	8.4	5.7-11.1	71.3	65.6-77.1
45-54	667	13.8	6.8-20.8	8.3	5.3-11.4	77.9	69.2-86.5
55-64	472	15.2	12.7-17.6	9.2	4.6-13.7	75.7	71.1-80.2
25-64	3795	18.8	16.3-21.2	8.7	6.8-10.5	72.6	69.7-75.4

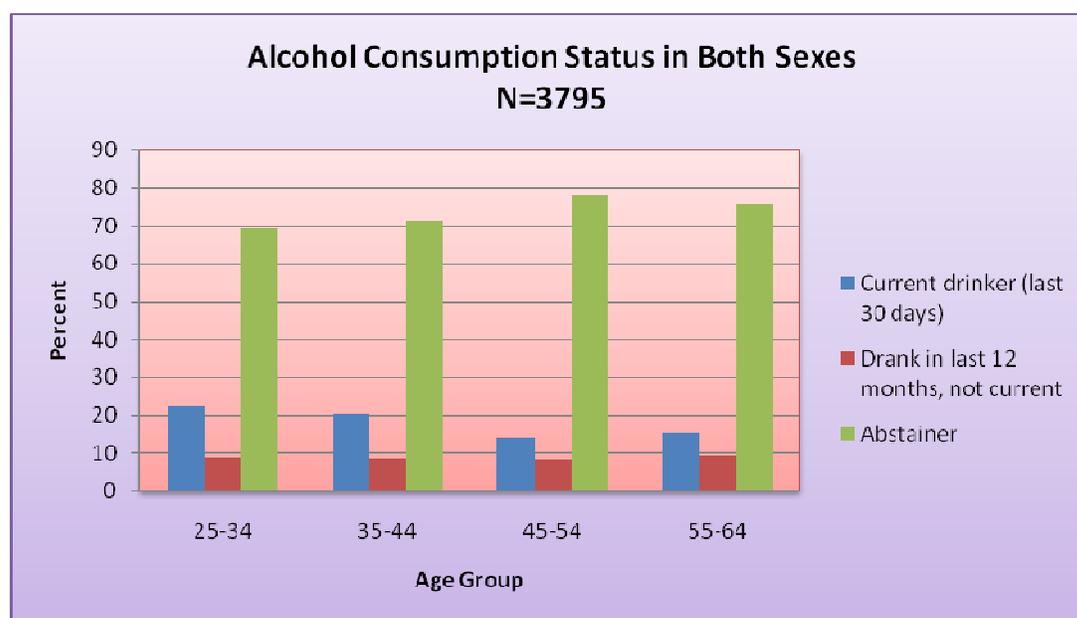


Figure 47 Alcohol consumption status in both sexes - STEPS 2007

The alcohol consumption status is that 18.8% of the population was current drinkers where as 8.8% had at least consumed one alcoholic drink in the past 12 months.

Table 48 Freq. of alcohol consumption - Males

Frequency of alcohol consumption in the last 12 months

Age Group (years)	Men										
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 1-4 days/ week	95% CI	% 1-3 days/ month	95% CI	% < 1 a month	95% CI
25-34	319	10.0	4.4-15.6	10.3	4.2-16.5	27.0	13.9-40.1	38.4	25.1-51.6	14.3	0.0-28.5
35-44	160	14.6	1.5-27.6	10.7	3.7-17.6	31.6	23.9-39.3	23.8	9.8-37.9	19.4	2.8-36.0
45-54	68	25.7	14.0-37.4	9.2	0.6-17.7	32.5	11.1-54.0	23.9	8.0-39.8	8.7	0.8-16.6
55-64	60	19.4	10.0-28.7	15.2	10.1-20.3	14.9	2.2-27.6	35.7	3.8-67.6	14.8	0.0-31.7
25-64	607	14.8	10.0-19.7	10.8	6.8-14.8	27.7	17.4-38.0	31.9	17.8-46.0	14.8	2.3-27.2

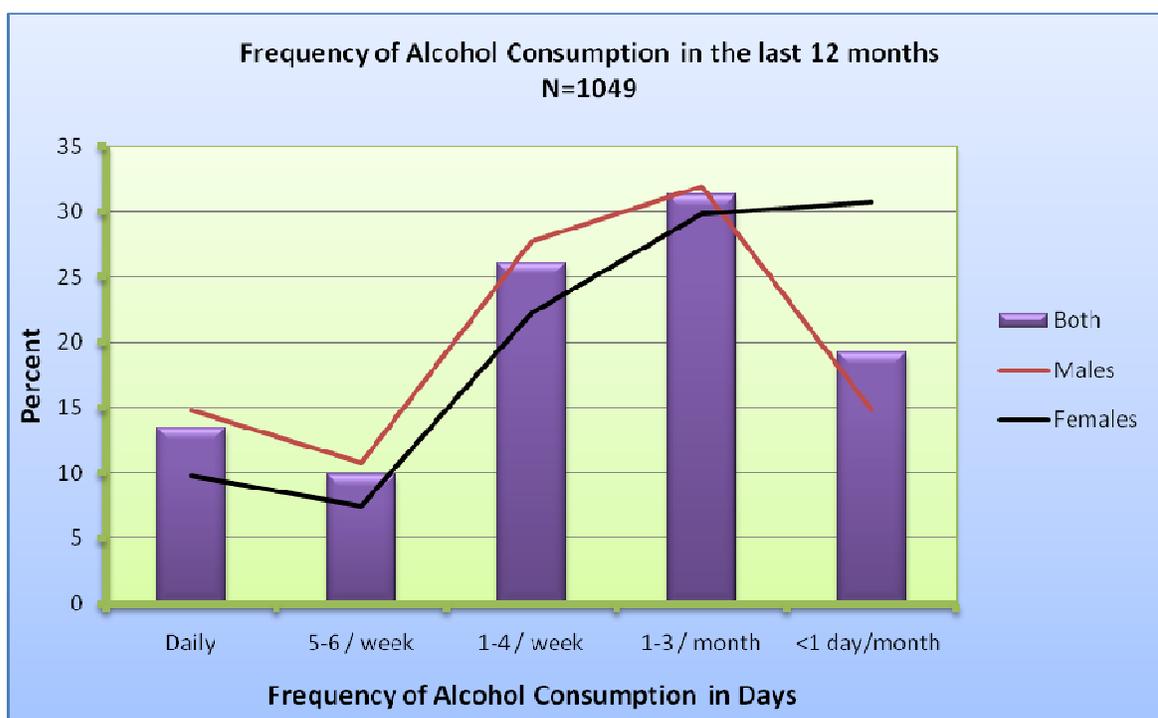


Figure 48 Frequency of alcohol consumption - STEPS 2007

The frequency of alcohol consumption in males was higher than females, but the trend as seen was the same in both. Males do consume alcohol on daily or weekly bases and quite rare on monthly basis as shown. The graph illustrates that alcohol was not taken regularly on daily basis but interrupted with different frequencies. The majority of people drink alcohol 1-4 days in a week (26%) followed by 1-3 days in a month (31%). Please refer to Tables 48, 49, 50 and figure 48

Table 49 Freq. Alcohol consumption - Females

Frequency of alcohol consumption in the last 12 months

Age Group (years)	Women										
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 1-4 days/. week	95% CI	% 1-3 days / month	95% CI	% <1 a month	95% CI
25-34	195	5.2	0.0-11.0	4.3	0.4-8.2	18.2	14.5-22.0	41.4	27.6-55.2	30.9	20.2-41.5
35-44	124	7.4	0.1-14.7	4.8	0.0-10.0	23.9	16.9-30.9	27.4	14.7-40.1	36.5	25.7-47.3
45-54	64	14.3	0.0-31.0	9.6	2.8-16.5	20.7	5.8-35.7	20.0	11.5-28.5	35.3	14.3-56.3
55-64	59	19.7	0.0-46.5	17.3	11.8-22.8	29.4	5.0-53.8	19.1	9.8-28.3	14.5	4.9-24.1
25-64	442	9.8	1.9-17.8	7.5	6.4-8.6	22.2	15.7-28.6	29.8	21.4-38.2	30.7	20.1-41.3

Table 50 Freq. Alcohol consumption - Both sexes

Frequency of alcohol consumption in the last 12 months											
Age Group (years)	Both Sexes										
	n	% Daily	95% CI	% 5-6 days/ week	95% CI	% 1-4 days/ week	95% CI	% 1-3 days/ month	95% CI	% <1 a month	95% CI
25-34	514	8.9	4.8-13.0	8.9	4.0-13.8	24.9	14.7-35.2	39.1	28.2-50.0	18.2	4.8-31.5
35-44	284	12.4	2.9-21.9	8.9	4.9-12.8	29.3	23.3-35.3	24.9	12.0-37.8	24.6	11.5-37.7
45-54	132	22.2	11.6-32.8	9.3	3.5-15.1	28.9	13.9-44.0	22.7	10.7-34.7	16.8	4.7-28.9
55-64	119	19.5	4.6-34.4	15.9	12.3-19.6	20.0	13.7-26.3	29.9	6.8-53.0	14.7	0.8-28.6
25-64	1049	13.4	8.8-18.1	9.9	7.1-12.7	26.1	19.1-33.2	31.3	19.3-43.3	19.2	7.6-30.8

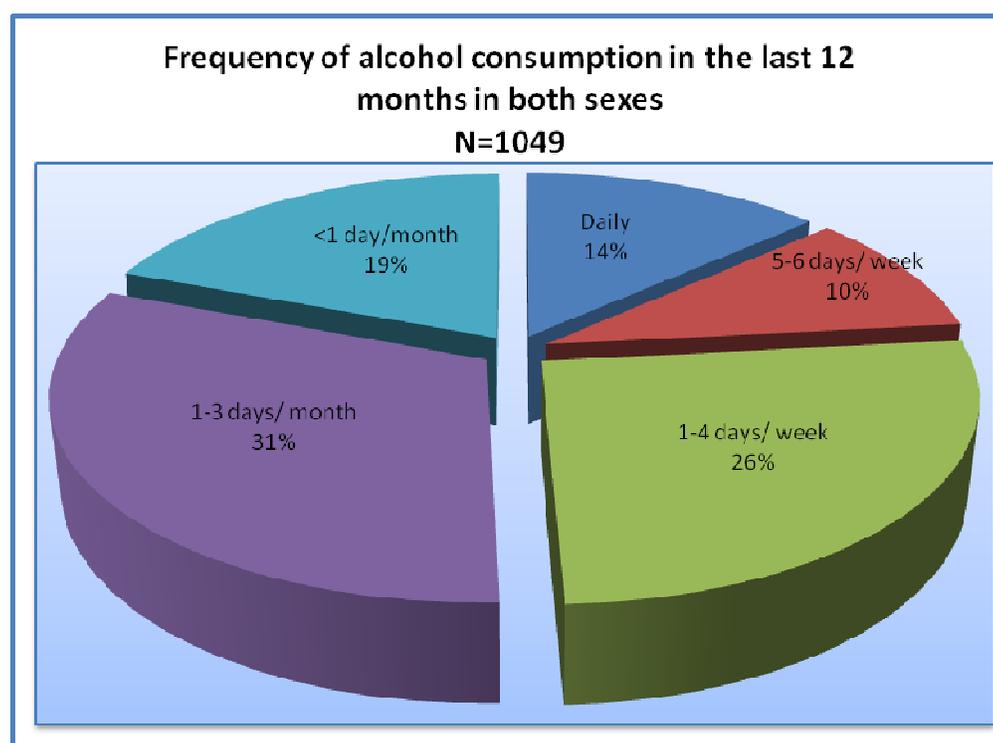


Figure 49 Frequency of alcohol consumption both sexes - STEPS 2007

Table 51 No. of standard drinks consumed - Males

Number of standard drinks consumed on a drinking day											
Age Group (years)	Men										
	n	% 1 drink	95% CI	% 2-3 drinks	95% CI	% 4-5 drinks	95% CI	% 6+ drinks	95% CI	Mean # of standard drinks	95% CI
25-34	244	3.0	0.6-5.5	11.7	5.7-17.7	11.3	4.7-17.8	74.0	69.6-78.5	10.1	9.4-10.7
35-44	123	4.5	0.0-10.2	15.2	4.7-25.6	16.1	11.1-21.2	64.2	46.7-81.8	8.8	7.6-10.1
45-54	54	7.7	0.0-15.8	19.0	0.0-40.6	30.9	15.8-46.1	42.4	30.2-54.7	6.5	6.0-7.1
55-64	33	6.3	0.0-17.5	41.3	14.1-68.5	23.8	12.3-35.3	28.6	5.8-51.5	4.6	3.0-6.1
25-64	454	4.5	1.0-7.9	16.1	10.4-21.8	17.0	12.9-21.1	62.4	56.0-68.8	8.7	8.0-9.4

Table 52 No. of standard drinks consumed - Females

Number of standard drinks consumed on a drinking day											
Age Group (years)	Women										
	n	% 1 drink	95% CI	% 2-3 drinks	95% CI	% 4-5 drinks	95% CI	% 6+ drinks	95% CI	Mean # of standard drinks	95% CI
25-34	158	5.5	0.0-11.3	23.9	18.9-28.9	24.9	12.7-37.2	45.7	36.9-54.4	5.6	4.8-6.4
35-44	86	8.4	1.7-15.1	34.1	23.4-44.7	29.8	14.5-45.2	27.7	9.3-46.0	4.5	3.3-5.7
45-54	41	22.8	8.3-37.3	32.9	13.3-52.5	14.8	3.5-26.1	29.5	6.6-52.3	3.8	2.4-5.3
55-64	35	20.2	5.8-34.5	42.4	28.0-56.7	17.2	0.0-35.1	20.3	9.8-30.8	3.8	2.4-5.3
25-64	320	10.7	5.6-15.7	30.3	24.5-36.2	23.9	17.1-30.7	35.1	24.9-45.3	4.8	3.9-5.7

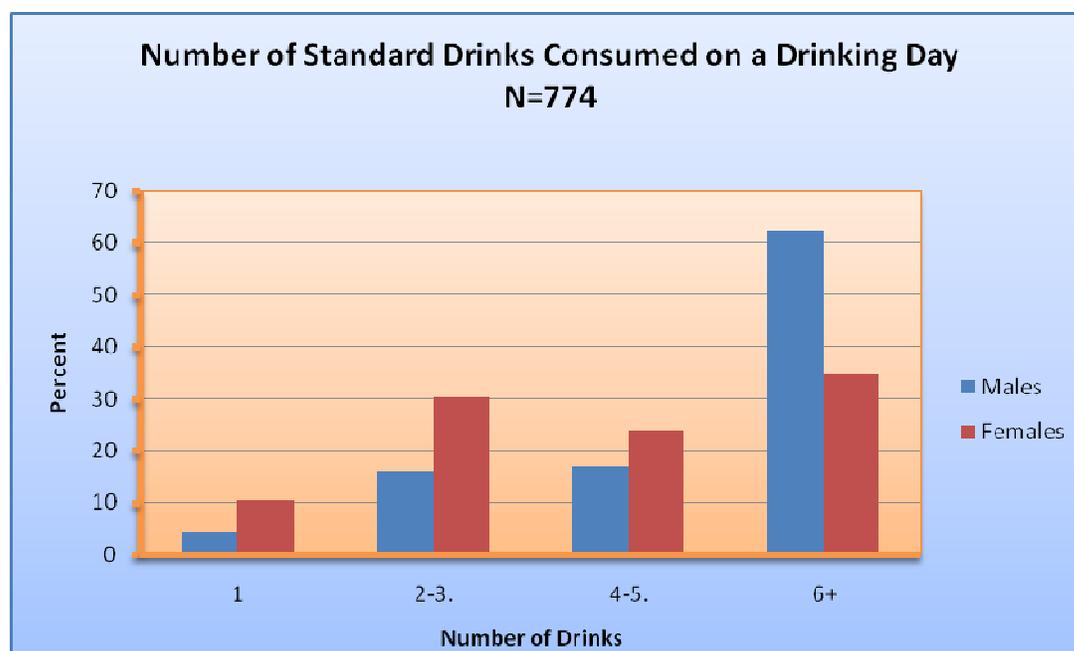


Figure 50 Standard drinks consumed - STEPS 2007

The number of standard drinks consumed by all age groups on a drinking day was higher in males than in females. The percentage of alcohol consumers was seen as well to increase proportionally to the number of drinks taken by both male and female respondents. The mean number of standard drinks ranged from 5-10, the highest in the age group 25-34.

Table 53 No. of standard drinks consumed - Both sexes

Age Group (years)	Number of standard drinks consumed on a drinking day										
	Both Sexes										Mean # of standard drinks
n	% 1 drink	95% CI	% 2-3 drinks	95% CI	% 4-5 drinks	95% CI	% 6+ drinks	95% CI			
25-34	402	3.7	1.4-5.9	14.8	10.3-19.2	14.7	8.6-20.8	66.9	63.1-70.6	8.9	8.1-9.7
35-44	209	5.6	1.4-9.8	20.6	13.4-27.9	20.1	17.1-23.1	53.7	42.5-64.8	7.6	6.4-8.7
45-54	95	11.3	2.6-19.9	22.3	7.0-37.5	27.1	17.8-36.4	39.4	27.2-51.5	5.9	5.1-6.7
55-64	68	11.3	2.2-20.4	41.7	21.7-61.7	21.4	11.9-30.9	25.6	11.4-39.9	4.3	3.0-5.6
25-64	774	6.1	3.3-9.0	19.9	15.0-24.9	18.9	16.0-21.8	55.0	50.1-59.9	7.6	6.9-8.4

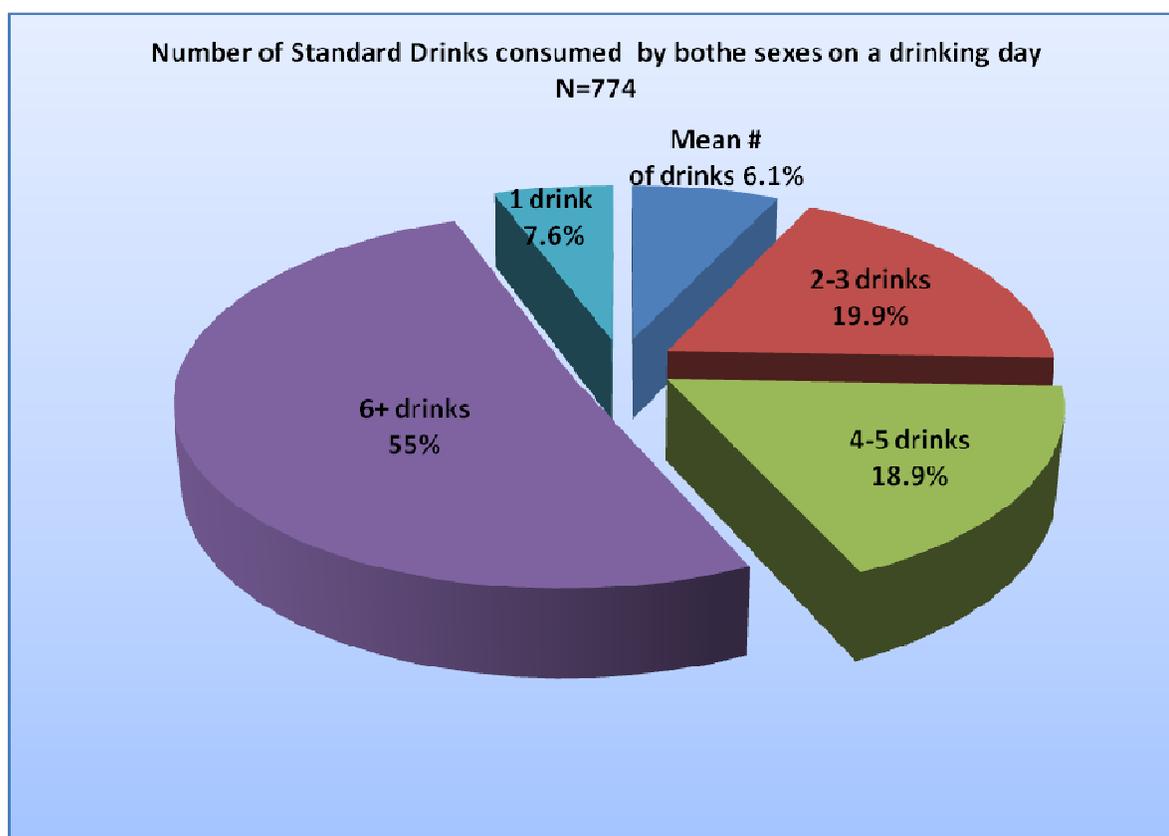


Figure 51 Standard drinks consumed both sexes - STEPS 2007

A standard drink is a measure of the amount of ethanol contained in any standard glasses of wine, beer, spirit etc. for example 1 bottle of beer or 1 tot of spirit or 1 medium glass of wine contains **10 gms** of **ethanol**. Among the total respondents during a drinking day, 55% of them took more than 6 standard drinks; 18.9%, 4-5 drinks; 20% 2-3 drinks in a single day.

Table 54 Freq. of drinks consumed - Males

Frequency and quantity of drinks consumed in the last 7 days							
Age Group (years)	Men						
	n	% Drank on 4+ days	95% CI	% 5+ drinks on any day	95% CI	% 20+ drinks in 7 days	95% CI
25-34	129	16.1	4.8-27.3	60.7	48.4-73.0	36.5	27.4-45.7
35-44	70	12.6	7.5-17.7	56.5	31.5-81.5	22.9	2.0-43.7
45-54	29	36.4	15.3-57.5	43.4	15.0-71.9	24.5	5.3-43.6
55-64	13	33.6	0.0-67.3	16.7	0.0-44.9	27.9	0.0-58.1
25-64	241	19.5	14.1-25.0	54.1	49.2-59.1	29.9	22.7-37.2

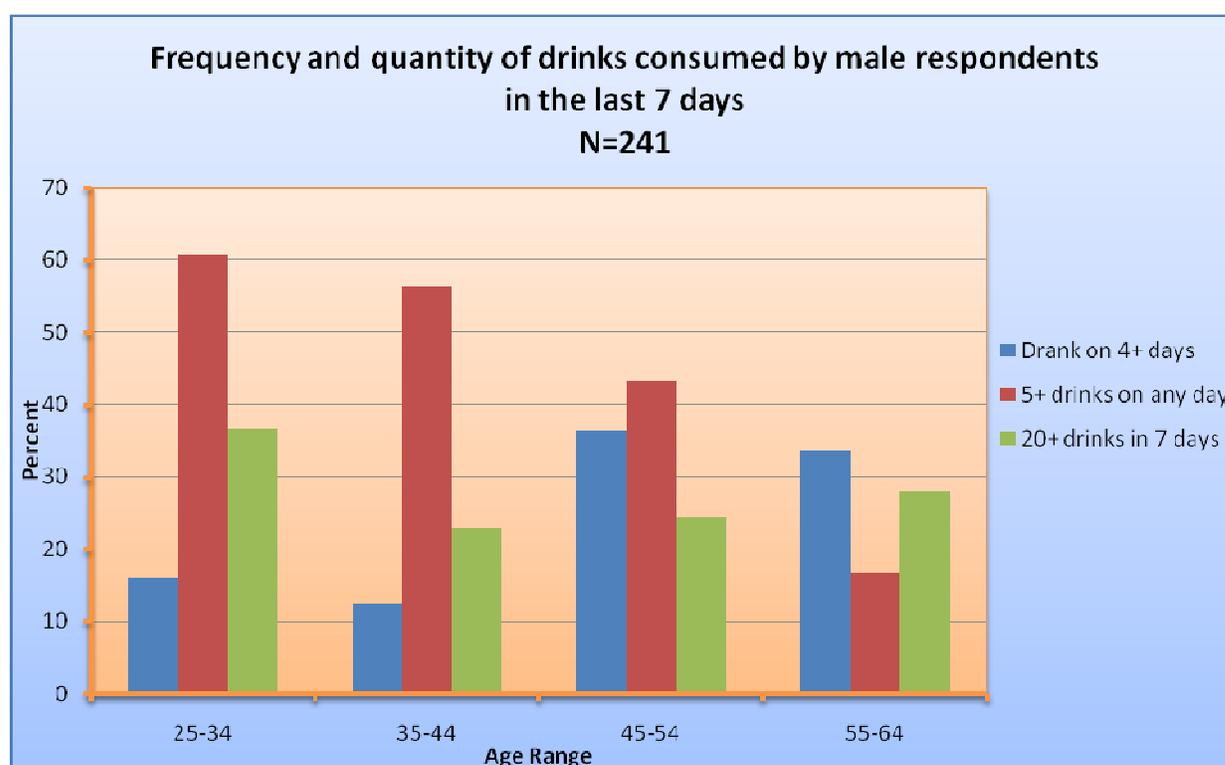


Figure 52 Frequency & quantity of drinks by males - STEPS 2007

Table 54 and figure 52 shows the number of current drinkers with a frequency and quantity of drinks taken in the last 30 days. The respondents were grouped by number of drinks and number of days consumed in 7 days. The percentage of men who had 5 or more dinks on any day in one week was 54% and 2o+ drinks in 20% of the respondents. They were mainly in the age group 25-54.

Table 55 Freq. of drinks consumed - Females

Frequency and quantity of drinks consumed in the last 7 days							
Age Group (years)	Women						
	n	% Drank on 4+ days	95% CI	% 4+ drinks on any day	95% CI	% 15+ drinks in 7 days	95% CI
25-34	84	7.5	0.7-14.3	52.3	40.9-63.8	18.6	0.0-38.6
35-44	37	19.0	8.6-29.3	56.9	34.9-78.9	17.3	0.8-33.8
45-54	20	22.1	0.0-44.2	39.2	0.3-78.1	22.1	0.0-44.2
55-64	19	65.0	42.5-87.5	53.8	6.8-100.0	40.1	0.0-81.0
25-64	160	20.0	12.3-27.7	51.8	32.8-70.7	21.5	6.8-36.2

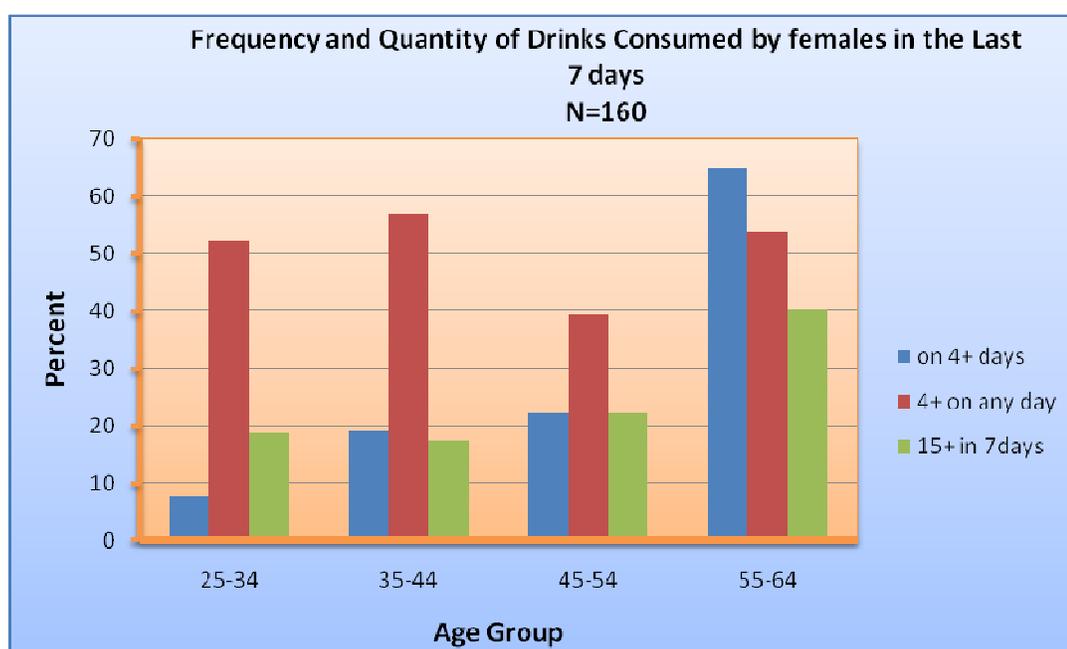


Figure 53 Frequency of drinks consumed by females- STEPS 2007

20% of the females had drunk on greater than 4 days in one week. This data is the same to that of males. More than half of the female respondents had 4+ drinks on any day, where as 21.5% had more than 15 drinks in 7 days.

Table 56 Freq. of drinks consumed - Both sexes

Frequency and quantity of drinks consumed in the last 7 days			
Age Group (years)	Both Sexes		
	n	% Drank on 4+ days	95% CI
25-34	213	14.0	3.6-24.3
35-44	107	14.1	8.6-19.5
45-54	49	33.2	12.1-54.3
55-64	32	47.8	23.0-72.6
25-64	401	19.6	14.2-25.1

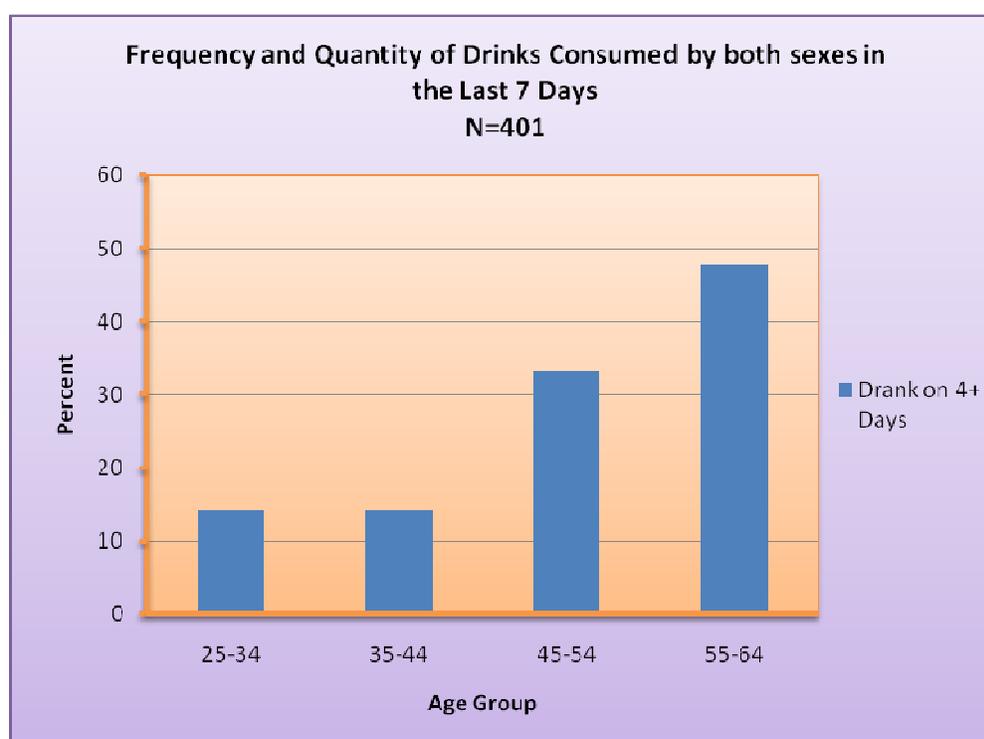


Figure 54 Frequency of drinks consumed by both sexes - STEPS 2007

The percentage of male and female respondents who had drunk on 4 plus days were 20%. The bar graph shows that it increases with ascending age.

HAZARDOUS AND HARMFUL DRINKING

The following data is for hazardous and harmful drinkers. To easily understand their differences, a comparison between male and female is made taking a **standard drink** as a reference.

Table 57 Classification of alcoholic drink

Classification of pure alcoholic drink intake on average per day		
Male	Type of Drink	Female
10g (1 drink) of pure alcohol per day	Standard drink	10g (1 drink) of pure alcohol per day
40-59.9g (4 - < 6 drinks) of pure alcohol per day	Hazardous drinking	20-39.9g (≥2 - < 4 drinks) of pure alcohol per day
≥60g (≥6 drinks) of pure alcohol per day	Harmful drinking	≥40 g (≥4 drinks) of pure alcohol per day

Table 58 Harmful drinking - Males

Harmful and Hazardous drinking in the last 7 days							
Age Group (years)	Men						
	n	% <40g pure alcohol per day	95% CI	% ≥4 to <6 drinks (hazardous drinking)	95% CI	% ≥6 drinks (harmful drinking)	95% CI
25-34	129	68.7	58.0-79.3	16.5	6.9-26.0	14.9	5.1-24.7
35-44	70	85.4	72.9-98.0	7.0	0.0-14.3	7.6	1.1-14.1
45-54	29	91.0	78.3-100.0	6.6	0.0-18.0	2.3	0.0-6.5
55-64	13	77.7	49.5-100.0	5.6	0.0-13.2	16.7	0.0-44.9
25-64	241	78.0	72.0-84.0	11.4	7.5-15.2	10.6	3.7-17.5

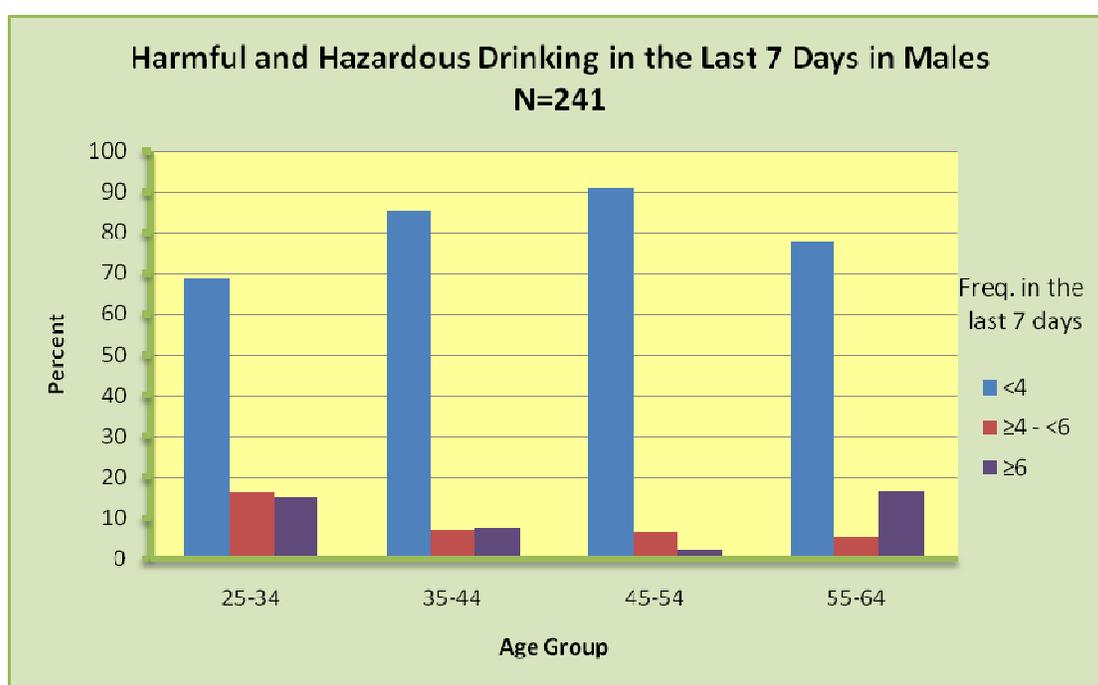


Figure 55 Harmful drinks by males - STEPS 2007

The percentage of current (last 30 days) drinkers engaged in hazardous and harmful drinking in the last 7 days were the same (11.4 and 10% respectively) in men.

Table 59 Harmful drinking - Females

Harmful and Hazardous drinking in the last 7 days							
Age Group (years)	Women						
	n	% <20g pure alcohol per day	95% CI	% ≥2 to < 4 drinks (hazardous drinking)	95% CI	% ≥4 drinks (harmful drinking)	95% CI
25-34	84	78.0	61.7-94.3	12.2	2.5-21.9	9.8	0.0-23.5
35-44	37	82.7	66.2-99.2	5.2	0.0-14.5	12.2	1.7-22.6
45-54	20	74.5	50.1-98.9	13.9	0.0-31.4	11.6	0.0-27.3
55-64	19	45.8	24.3-67.2	43.5	14.0-72.9	10.7	0.0-25.8
25-64	160	74.6	63.5-85.8	14.6	10.8-18.3	10.8	0.5-21.1

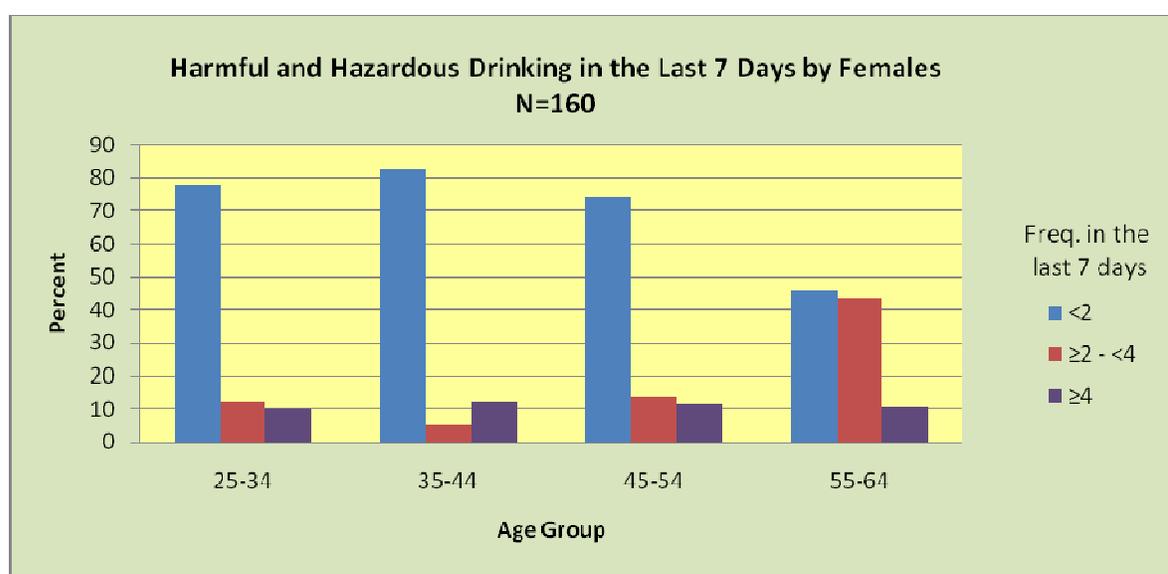


Figure 56 Harmful drinks by females - STEPS 2007

Females who drank less than 20g of alcohol per day in one week's time for the past 30 days were 75% whereas those engaged in hazardous and harmful drinking were 25%.

Table 60 Maximum number of drinks consumed

Mean maximum number of drinks consumed on one occasion in the last 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean maximum number	95% CI	n	Mean maximum number	95% CI	n	Mean maximum number	95% CI
25-34	133	17.1	15.1-19.1	81	10.4	7.4-13.5	214	15.5	13.6-17.3
35-44	71	16.2	13.7-18.7	37	9.0	4.7-13.3	108	14.7	11.5-17.8
45-54	29	8.5	6.7-10.3	19	8.3	5.7-10.8	48	8.4	6.5-10.3
55-64	19	8.7	6.1-11.3	19	8.4	5.4-11.5	38	8.6	7.3-9.9
25-64	252	14.6	13.2-16.1	156	9.5	7.2-11.9	408	13.5	11.9-15.0

The largest number of drinks consumed during a single occasion in the last 12 months among all drinkers counting all types of standard drinks together was 15 in males and 10 in females.

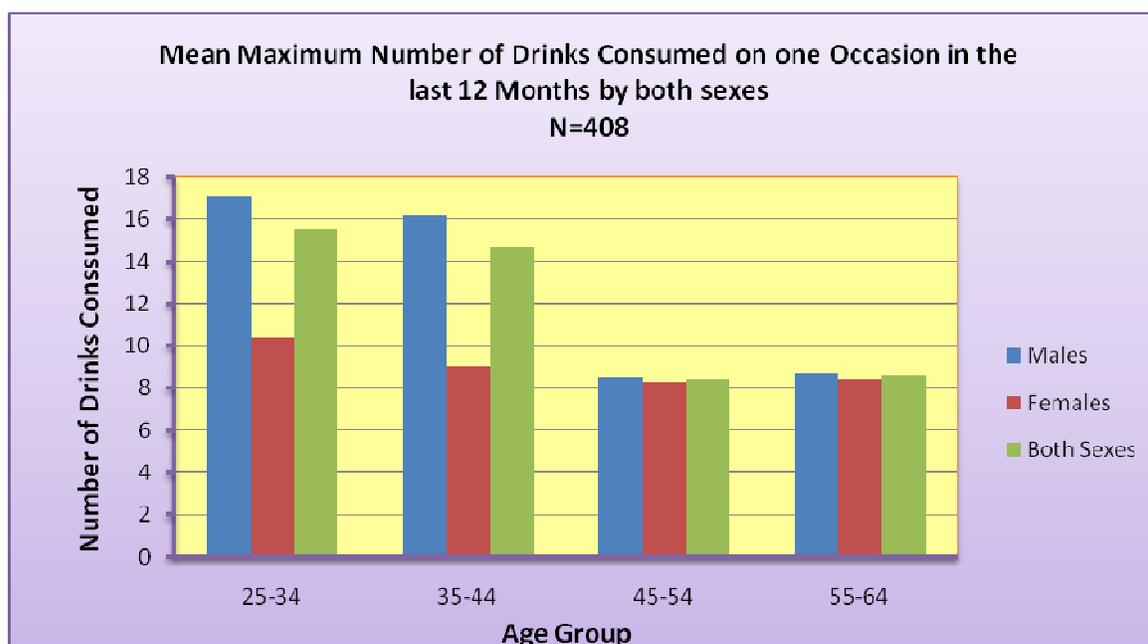


Figure 57 Mean maximum number of drinks by both sexes - STEPS 2007

Table 61 Number of drinks in a day - Males

Five or more drinks on a single occasion			
Age Group (years)	Men		
	n	Mean number of days	95% CI
25-34	84	15.7	3.3-28.0
35-44	47	22.5	13.9-31.2
45-54	18	15.2	6.3-24.0
55-64	14	25.8	0.0-57.4
25-64	163	18.3	9.1-27.5

Table 62 Number of drinks in a day - Females

Four or more drinks on a single occasion			
Age Group (years)	Women		
	n	Mean number of days	95% CI
25-34	55	8.7	0.9-16.5
35-44	24	27.0	0.0-73.1
45-54	16	9.4	0.0-20.4
55-64	10	3.7	2.1-5.3
25-64	105	12.9	3.1-22.7

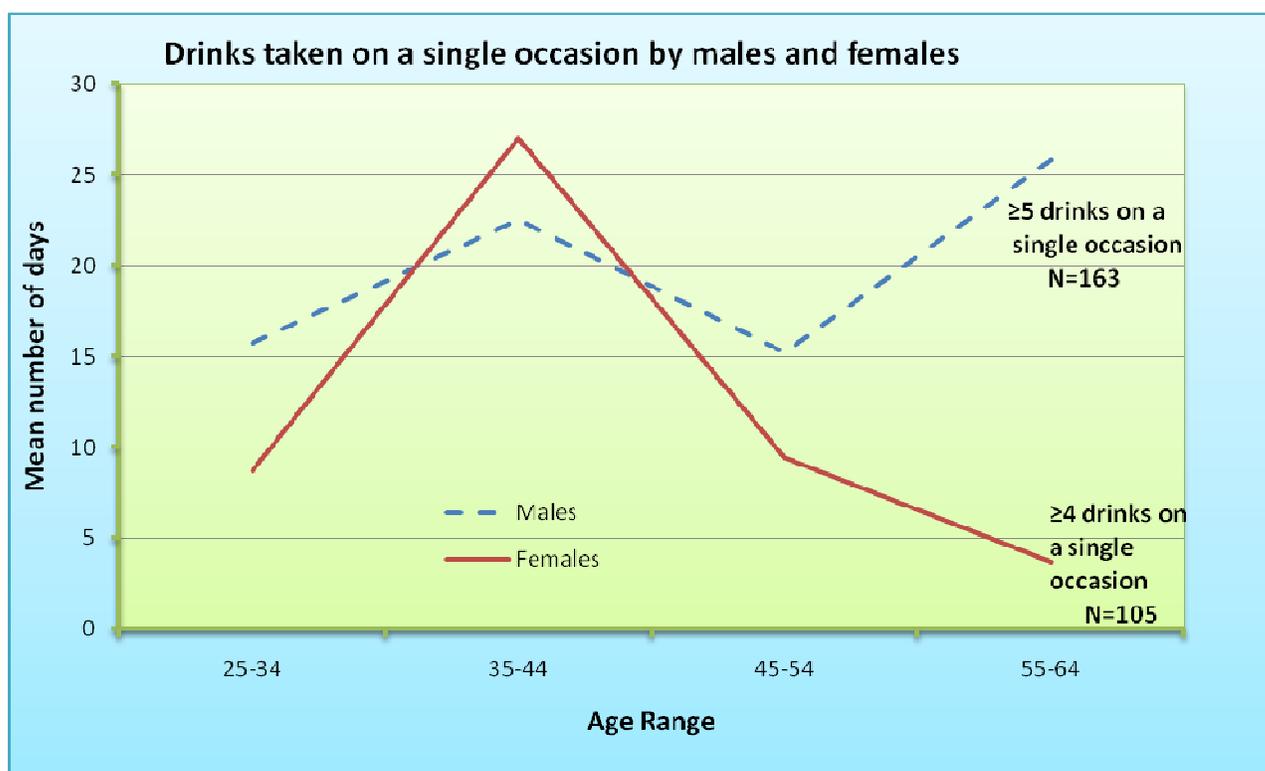


Figure 58 Mean number of drinks taken - STEPS 2007

The mean number of days that females consumed 4 or more drinks on a single occasion and that of 5 or more drinks for males lies between 3.1 – 27.5 of 95% Confidence Interval with no difference among them, but the females were in the age group 35-44 had the highest number of drinking days compared to that of the males.

FRUIT AND VEGETABLE CONSUMPTION

Table 63 No. of days fruit consumed

Age Group (years)	Mean number of days fruit consumed in a typical week								
	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
25-34	308	1.5	0.2-2.8	542	1.3	0.0-2.5	850	1.4	0.1-2.6
35-44	162	1.5	0.0-3.0	368	0.9	0.0-1.7	530	1.1	0.0-2.3
45-54	101	0.7	0.0-1.8	289	0.7	0.0-1.3	390	0.7	0.0-1.5
55-64	96	0.5	0.0-1.3	204	0.3	0.0-0.8	300	0.4	0.0-1.0
25-64	667	1.1	0.0-2.4	1403	0.8	0.0-1.8	2070	1.0	0.0-2.1

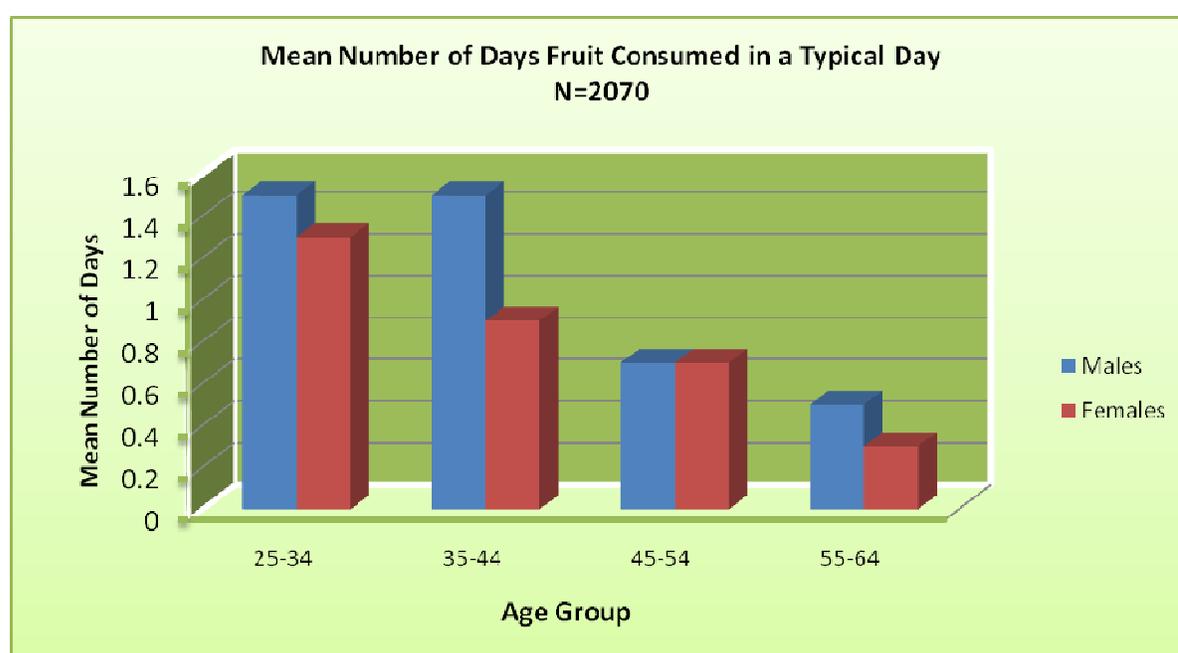


Figure 59 Mean number of days fruits consumed - STEPS 2007

The mean number of days fruits and vegetables consumed in a typical day by male and female respondents was indifferent. They had an average of 1 day and vegetables 3.5 days consumption (Table 65, Fig. 61).

Table 64 No. of servings of fruit

Mean number of servings of fruit on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
25-34	308	0.5	0.0-0.9	542	0.3	0.0-0.7	850	0.4	0.0-0.8
35-44	162	0.4	0.0-0.8	368	0.2	0.0-0.4	530	0.3	0.0-0.6
45-54	101	0.2	0.0-0.4	289	0.2	0.0-0.4	390	0.2	0.0-0.4
55-64	96	0.1	0.0-0.3	204	0.1	0.0-0.2	300	0.1	0.0-0.2
25-64	667	0.3	0.0-0.7	1403	0.2	0.0-0.5	2070	0.3	0.0-0.6

The mean number of servings of fruit given in a typical week was less than 1 time in both male and female respondents, and yet very low in females as they approach old age.

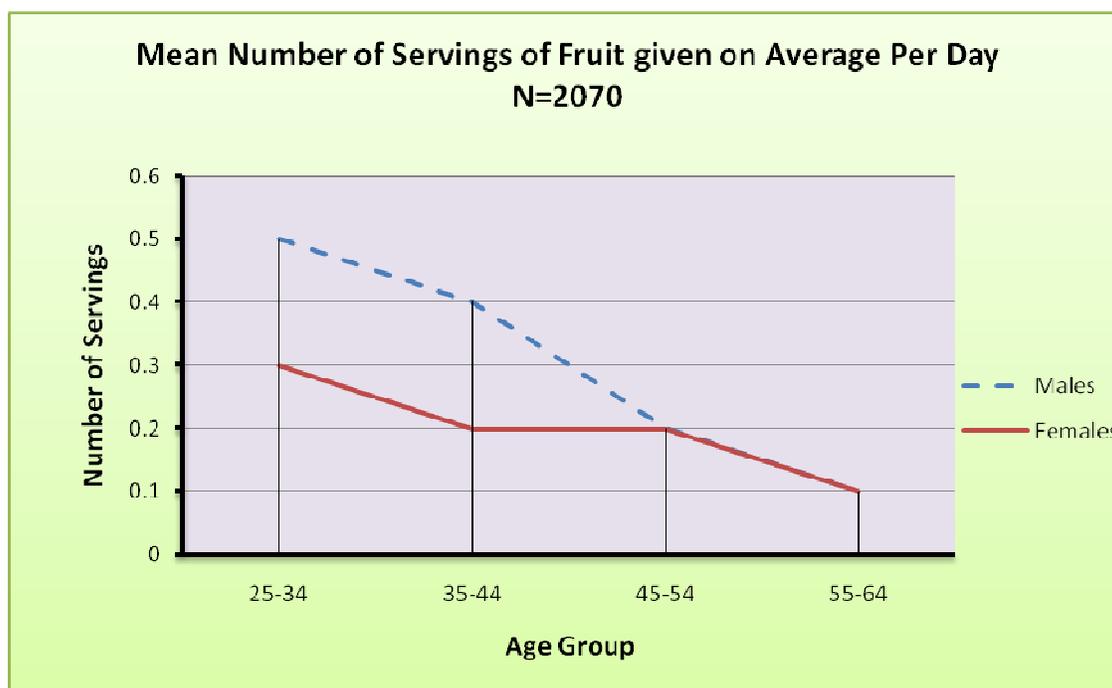


Figure 60 Mean number of servings of fruit - STEPS 2007

Table 65 No. of days vegetables consumed

Mean number of days vegetables consumed in a typical week									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
25-34	584	3.2	2.1-4.3	1071	3.7	2.3-5.2	1655	3.4	2.2-4.7
35-44	291	3.2	1.4-5.1	634	3.7	2.2-5.2	925	3.5	1.9-5.1
45-54	163	3.6	2.7-4.5	463	3.4	1.7-5.0	626	3.5	2.2-4.8
55-64	131	3.0	1.8-4.2	312	3.0	1.5-4.5	443	3.0	1.7-4.4
25-64	1169	3.3	2.1-4.5	2480	3.5	2.0-5.1	3649	3.4	2.0-4.8

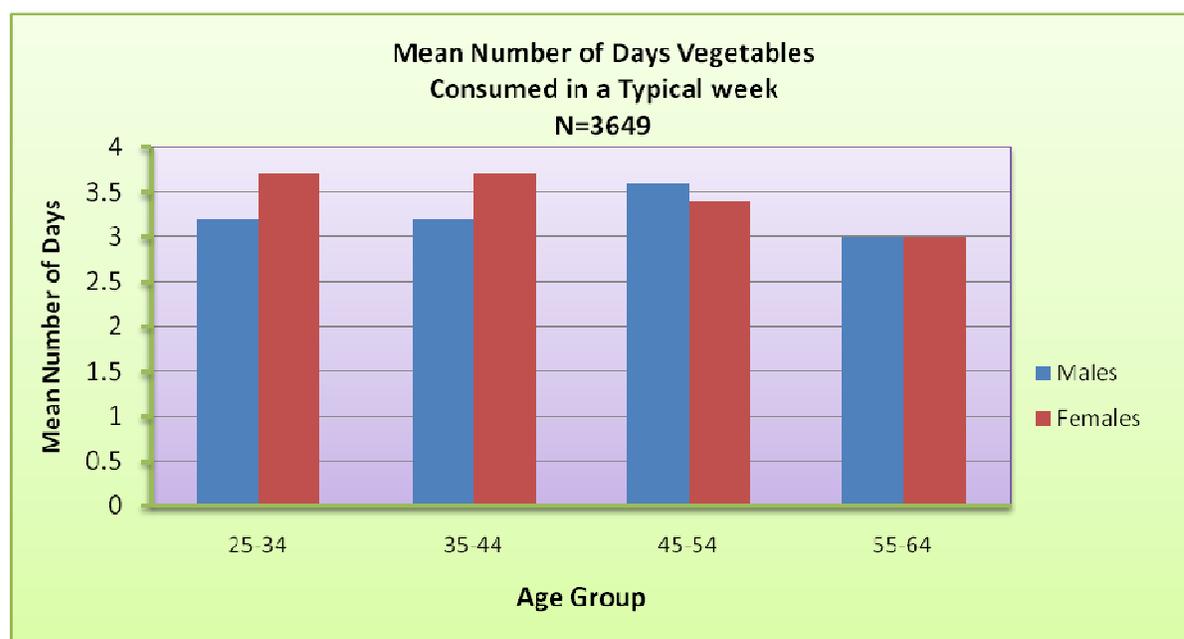


Figure 61 Mean number of days vegetables consumed - STEPS 2007

The mean number of days vegetables consumed both by males and females was 3.5 days in a typical week.

Table 66 No. of servings of vegetables

Mean number of servings of vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
25-34	584	0.9	0.6-1.1	1071	1.0	0.7-1.4	1655	0.9	0.6-1.3
35-44	291	0.9	0.3-1.5	634	1.0	0.7-1.4	925	1.0	0.5-1.4
45-54	163	1.0	0.5-1.4	463	1.0	0.5-1.5	626	1.0	0.5-1.5
55-64	131	0.9	0.6-1.1	312	0.9	0.5-1.3	443	0.9	0.5-1.2
25-64	1169	0.9	0.5-1.2	2480	1.0	0.6-1.4	3649	1.0	0.6-1.3

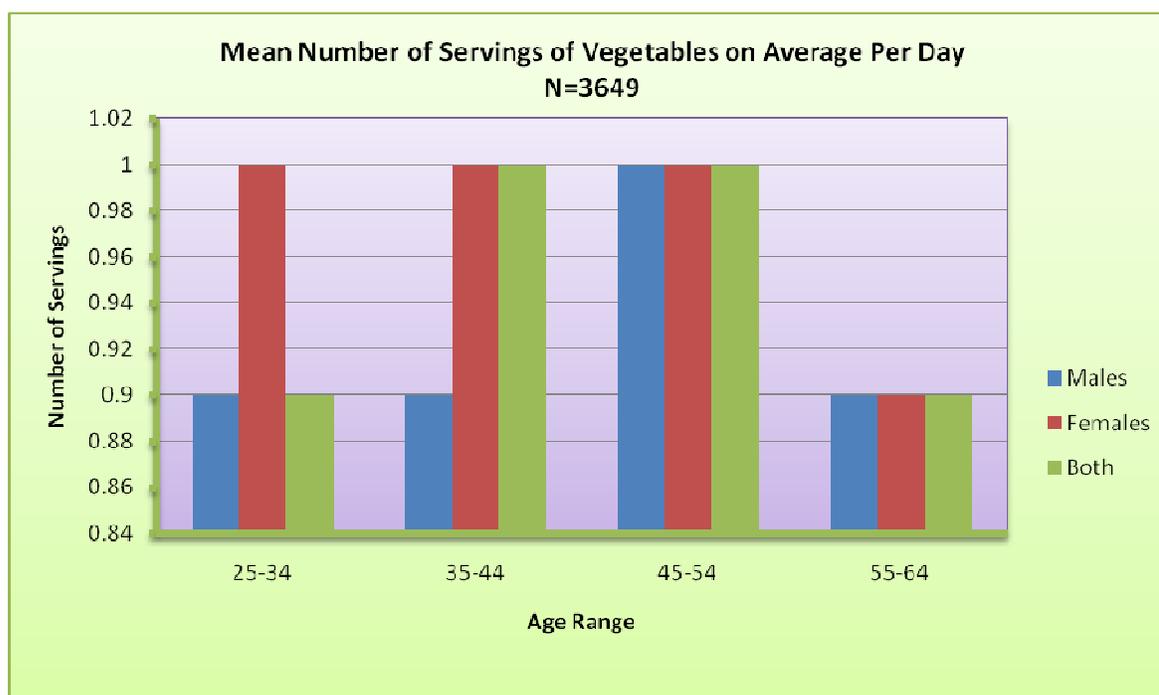


Figure 62 Mean number of servings of vegetables - STEPS 2007

The mean number of servings of vegetables in males and females on average was 1 times per day whereas it was even less than one in the age group 55-64.

Table 67 No. of servings fruit/vegetables

Mean number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
25-34	602	1.1	0.6-1.5	1104	1.2	0.7-1.6	1706	1.1	0.6-1.6
35-44	303	1.1	0.3-1.8	659	1.1	0.7-1.6	962	1.1	0.5-1.7
45-54	167	1.0	0.5-1.5	484	1.1	0.6-1.6	651	1.1	0.5-1.6
55-64	139	0.9	0.4-1.3	336	0.9	0.5-1.3	475	0.9	0.5-1.3
25-64	1211	1.0	0.5-1.6	2583	1.1	0.6-1.6	3794	1.1	0.6-1.6

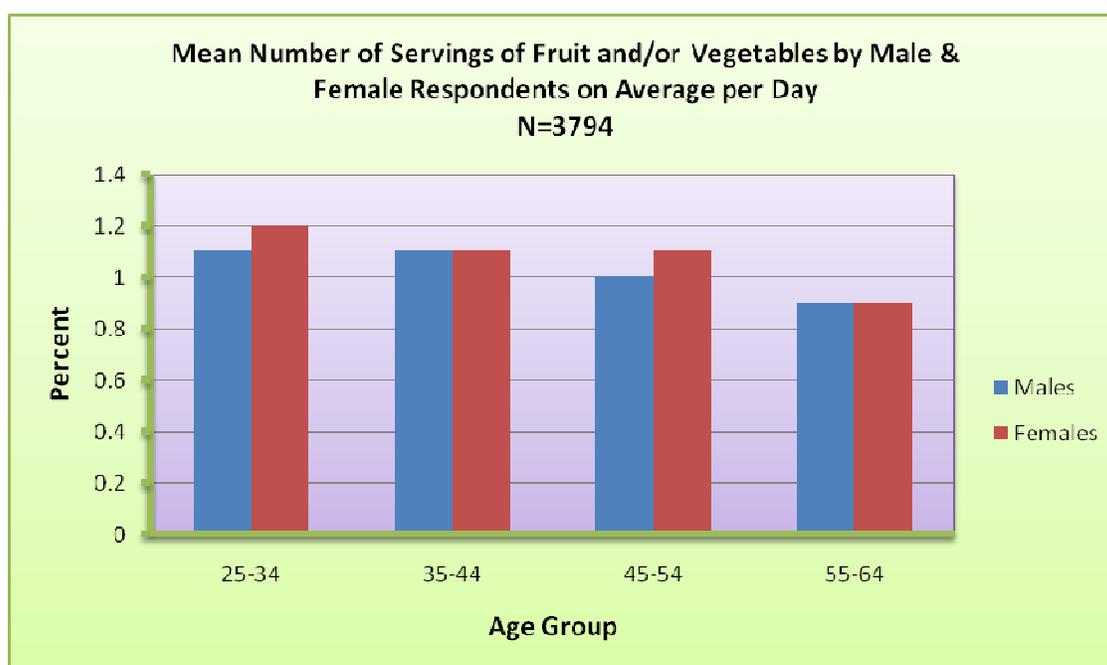


Figure 63 Mean number of servings fruit/vegetables - STEPS 2007

The mean number of servings of either fruit and or vegetables by both male and female respondents was 1 time on average on a typical day.

Table 68 No. of servings fruits/vegetables - Males

Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Men								
	n	% 0 fruit and/or vegetables	95% CI	% 1-2 servings	95% CI	% 3-4 servings	95% CI	% ≥5 servings	95% CI
25-34	602	61.9	37.9-85.9	30.2	10.1-50.3	4.4	1.7-7.1	3.5	1.7-5.2
35-44	303	62.1	28.3-95.9	27.2	2.8-51.6	7.2	0.0-14.4	3.5	0.1-7.0
45-54	167	57.5	40.5-74.5	35.3	23.2-47.3	4.6	0.0-11.3	2.7	0.0-7.3
55-64	139	65.9	47.9-83.8	29.1	17.1-41.1	3.4	0.0-7.8	1.6	0.0-4.5
25-64	1211	61.5	37.7-85.2	30.4	12.8-48.1	5.0	0.1-9.9	3.1	0.9-5.2

The great majority of male respondents (61.5%) had no servings of fruit and or vegetables, 30.4% had at least 1-2 servings, 5% had 3-4 and 3% had greater than 5 servings.

Table 69 No. of servings fruits/vegetables - Females

Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Women								
	n	% 0 fruit and/or vegetables	95% CI	% 1-2 servings	95% CI	% 3-4 servings	95% CI	% ≥5 servings	95% CI
25-34	1104	55.6	29.6-81.7	35.6	15.3-55.8	5.5	0.1-10.9	3.3	0.9-5.7
35-44	659	57.3	29.8-84.8	35.1	10.5-59.7	3.5	0.1-6.9	4.0	1.0-7.1
45-54	484	60.4	34.9-85.9	30.3	9.4-51.2	4.1	0.0-8.9	5.2	2.4-8.0
55-64	336	67.1	41.2-92.9	27.5	5.7-49.3	3.3	0.0-8.1	2.1	1.0-3.3
25-64	2583	58.9	32.4-85.3	33.1	11.2-54.9	4.3	0.0-8.7	3.8	1.7-5.8

59% of females had no fruits and or vegetables servings. 33% had 1-2 services, 4.3% had 3-4 servings, and 3.8% had greater than 5 servings. But all in all the results in females was indifferent from that of the males. The percentage of respondents who ate fruits and vegetables became smaller and smaller as the number of servings increased from zero – Fig 64 and 65.

Table 70 No. of servings fruits/vegetables -both sexes

Number of servings of fruit and/or vegetables on average per day									
Age Group (years)	Both Sexes								
	n	% 0 fruit and/or vegetables	95% CI	% 1-2 servings	95% CI	% 3-4 servings	95% CI	% ≥5 servings	95% CI
25-34	1706	58.8	33.9-83.8	32.8	12.8-52.8	4.9	0.9-9.0	3.4	1.7-5.1
35-44	962	59.5	29.5-89.5	31.6	7.6-55.5	5.2	0.0-10.4	3.8	1.0-6.6
45-54	651	59.0	37.9-80.2	32.6	16.3-48.8	4.3	0.0-9.5	4.0	0.5-7.6
55-64	475	66.5	44.3-88.7	28.2	10.9-45.5	3.4	0.0-7.9	1.9	0.3-3.5
25-64	3794	60.1	35.0-85.2	31.8	12.1-51.6	4.6	0.1-9.2	3.4	1.5-5.4

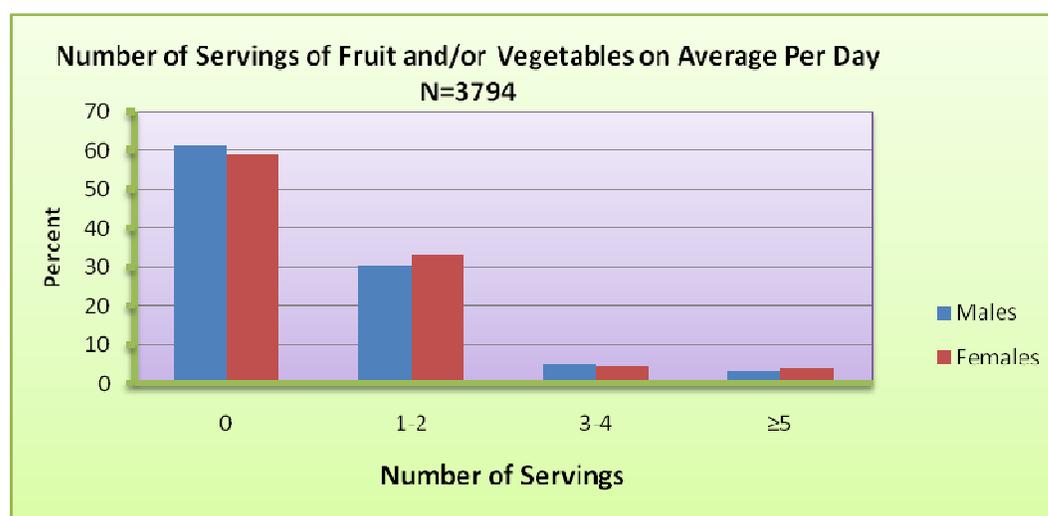


Figure 64 Number of servings fruit/vegetables - STEPS 2007

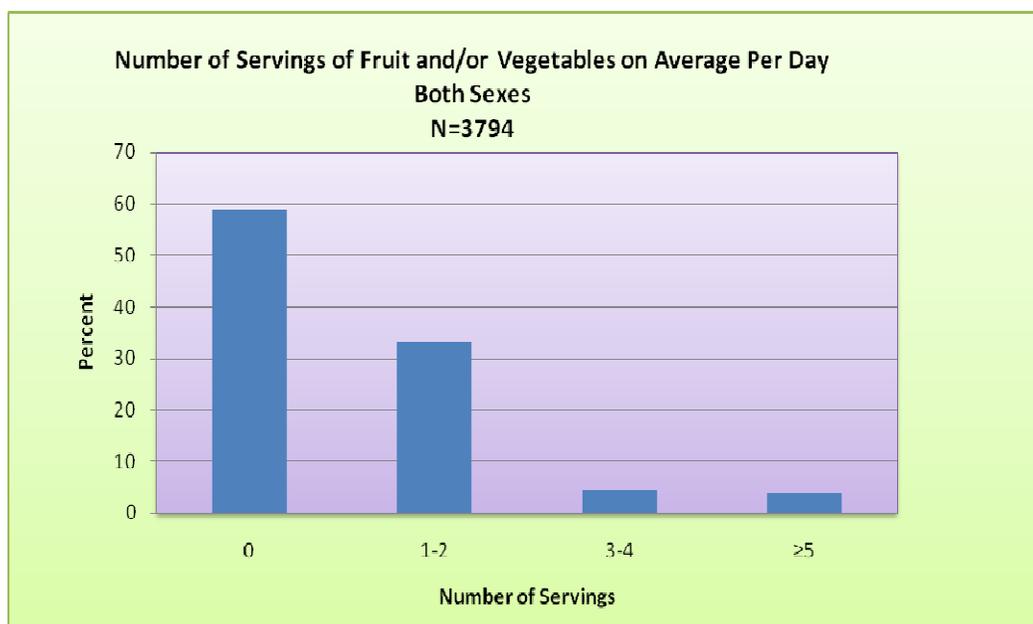


Figure 65 Average servings of fruit/vegetables - STEPS 2007

Table 71 Consumed less than 5 servings fruit/vegetables

Less than five servings of fruit and/or vegetables on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	% < five servings per day	95% CI	n	% < five servings per day	95% CI	n	% < five servings per day	95% CI
25-34	602	96.5	94.8-98.3	1104	96.7	94.3-99.1	1706	96.6	94.9-98.3
35-44	303	96.5	93.0-99.9	659	96.0	92.9-99.0	962	96.2	93.4-99.0
45-54	167	97.3	92.7-100.0	484	94.8	92.0-97.6	651	96.0	92.4-99.5
55-64	139	98.4	95.5-100.0	336	97.9	96.7-99.0	475	98.1	96.5-99.7
25-64	1211	96.9	94.8-99.1	2583	96.2	94.2-98.3	3794	96.6	94.6-98.5

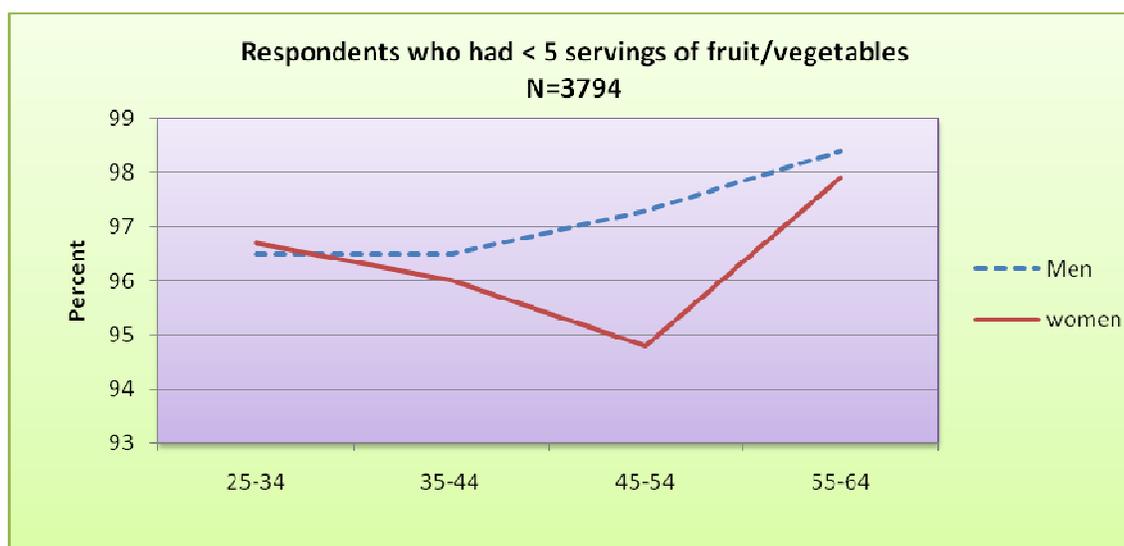


Figure 66 Less than 5 servings of fruit/vegetables - STEPS 2007

97% of both male and female respondents had less than 5 servings of fruits and or vegetables on average per day.

Table 72 Type of fat used for cooking

Type of oil or fat most often used for meal preparation by both sexes													
Age Range (years)	n	% Vegetable oil	95% CI	% Lard OR Suet	95% CI	% Butter OR Ghee	95% CI	% Margarine	95% CI	% Other	95% CI	% None used	95% CI
25-34	1789	98.9	97.1-100.0	0.2	0.0-0.3	0.1	0.0-0.4	0.2	0.0-0.4	0.5	0.0-1.5	0.1	0.0-0.4
35-44	1003	98.7	97.7-99.6	0.2	0.0-0.4	0.0	0.0-0.1	0.3	0.0-0.9	0.2	0.0-0.6	0.6	0.0-1.9
45-54	680	96.8	94.6-99.0	0.1	0.0-0.4	0.0	0.0-0.0	0.1	0.0-0.4	1.4	0.0-4.5	1.5	0.3-2.8
55-64	491	95.7	93.7-97.7	0.0	0.0-0.0	0.0	0.0-0.0	0.3	0.0-0.8	2.0	0.0-5.9	2.0	0.0-4.6
TOTAL	3963	98.0	96.5-99.4	0.1	0.0-0.2	0.1	0.0-0.1	0.2	0.0-0.5	0.8	0.0-2.6	0.8	0.0-1.7

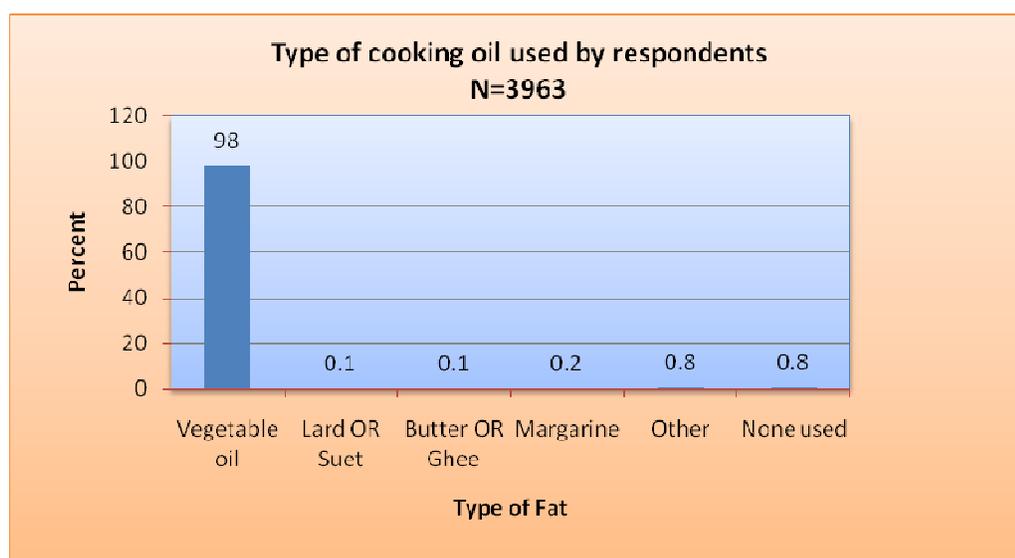


Figure 67 Cooking oil used - STEPS 2007

The type of oil used for cooking by respondents of the STEPS survey was vegetable oil (98%), lard, butter margarine and other types of fat (1%), who did not use at all 1%.

PHYSICAL ACTIVITY

Respondents were classified into three categories according to their total physical activities in the following types:

- i. activity at work
- ii. travel to and from places
- iii. recreational activities

Moderate-intensity

Sports, fitness or recreational activities that cause small increases in breathing or heart rate such as brisk walking for at least 10 minutes continuously

Vigorous-intensity

Activity that causes large increases in breathing or heart rate like [examples] for at least 10 minutes continuously

Table 73 Level of physical activity Males

Age Group (years)	Level of total physical activity						
	Men						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
25-34	482	15.7	7.5-23.9	18.0	13.8-22.1	66.3	55.6-77.1
35-44	255	24.3	8.3-40.2	21.2	16.0-26.5	54.5	40.1-68.9
45-54	140	36.8	19.6-54.0	18.5	13.3-23.6	44.8	31.0-58.6
55-64	113	49.3	34.1-64.6	17.3	10.2-24.4	33.3	20.4-46.3
25-64	990	26.7	14.6-38.9	18.8	17.4-20.2	54.5	42.8-66.2

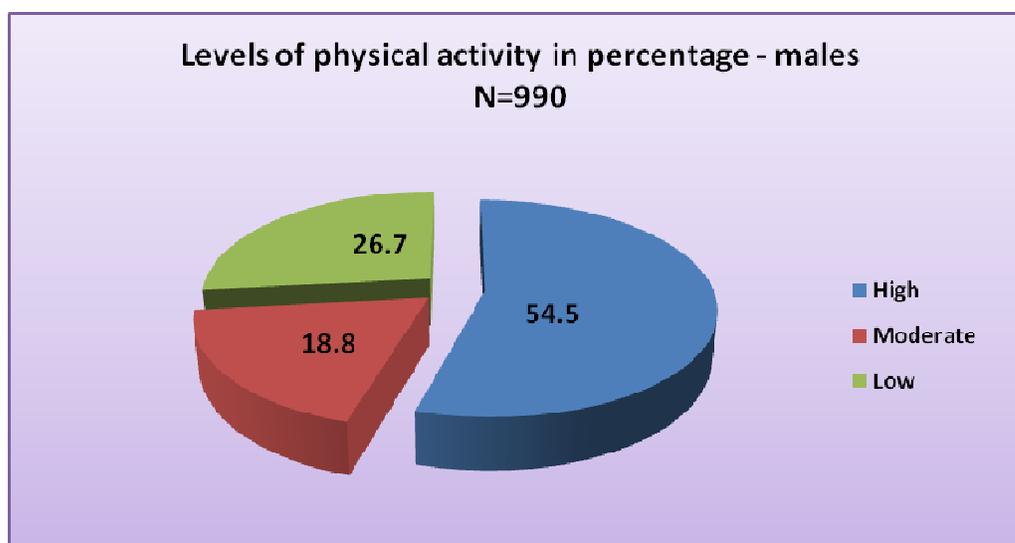


Figure 68 Level of physical activity by male - STEPS 2007

More than 50% of male respondents had high level of physical activity while the rest had moderate to low.

Table 74 Level of physical activity Females

Age Group (years)	Level of total physical activity						
	Women						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
25-34	974	40.7	20.9-60.5	26.2	18.2-34.2	33.1	18.8-47.5
35-44	562	39.4	16.6-62.3	23.1	15.5-30.6	37.5	16.9-58.1
45-54	413	40.0	18.3-61.8	25.0	16.8-33.2	35.0	19.0-50.9
55-64	279	51.2	36.5-65.8	22.7	16.7-28.7	26.1	13.8-38.4
25-64	2228	41.7	21.8-61.6	24.6	19.0-30.2	33.7	18.0-49.4

34% of female respondents had the experience of high physical activity where as the majority had low to medium

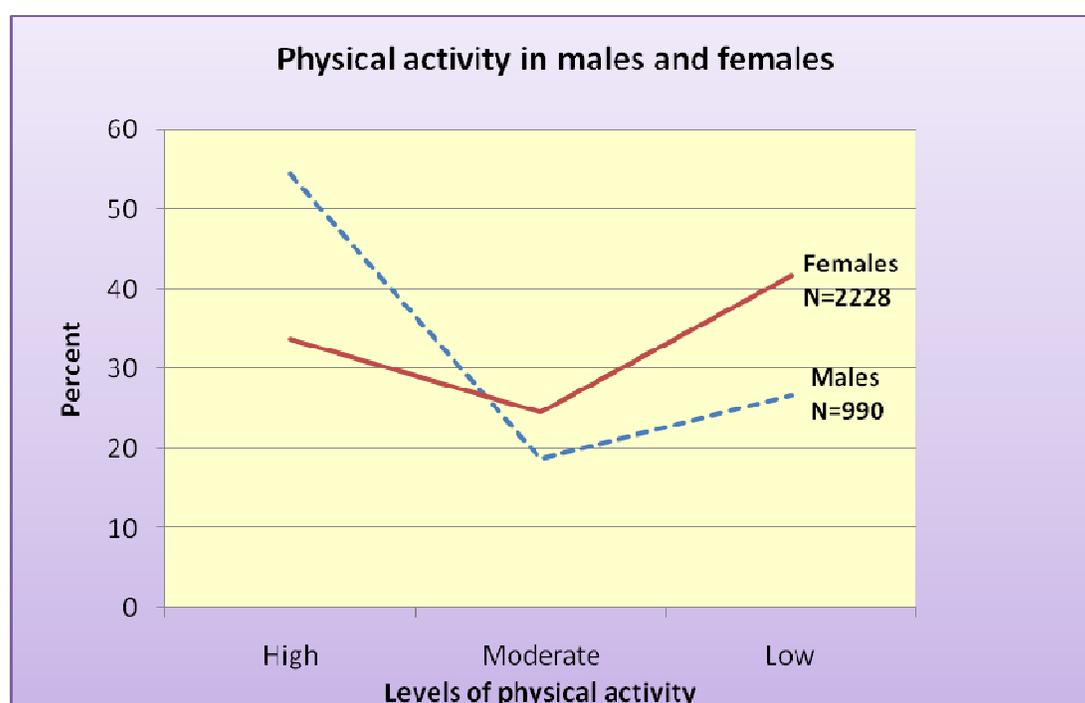


Figure 69 Level of physical activity by females - STEPS 2007

Table 75 Level of physical activity - Both sexes

Age Group (years)	Level of total physical activity						
	Both Sexes						
	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
25-34	1456	28.5	14.1-42.9	22.2	19.0-25.4	49.4	36.3-62.5
35-44	817	32.6	12.8-52.4	22.2	17.9-26.5	45.2	28.0-62.4
45-54	553	38.5	22.7-54.4	22.0	17.7-26.2	39.5	26.9-52.1
55-64	392	50.4	40.0-60.8	20.4	14.7-26.1	29.2	21.9-36.5
25-64	3218	34.7	18.9-50.5	21.9	18.8-25.0	43.4	30.1-56.6

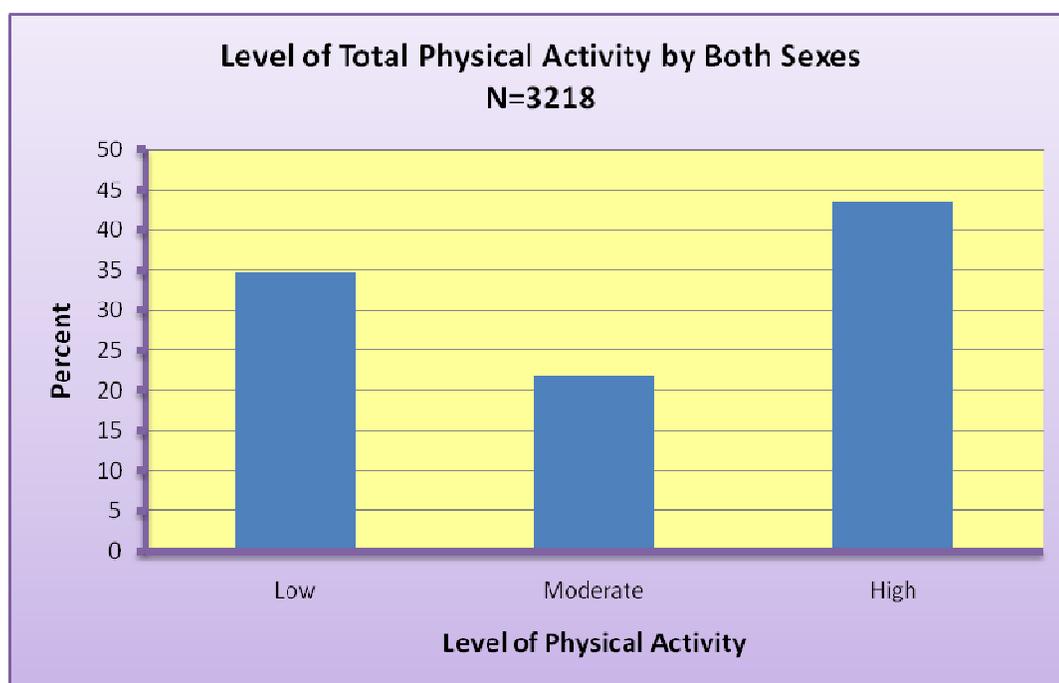


Figure 70 Level of physical activity by both sexes - STEPS 2007

Table 76 Mean minutes of total physical activity

Mean minutes of total physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
25-34	482	259.4	209.0-309.7	974	123.5	77.0-170.1	1456	190.0	138.2-241.8
35-44	255	237.2	140.6-333.7	562	142.7	75.1-210.3	817	185.5	104.4-266.6
45-54	140	200.7	121.8-279.5	413	128.9	68.1-189.7	553	162.0	97.5-226.5
55-64	113	149.1	124.7-173.5	279	93.0	60.7-125.3	392	116.9	90.0-143.8
25-64	990	227.1	160.3-293.8	2228	125.4	73.3-177.4	3218	172.7	113.0-232.4

Mean minutes of total physical activity on average per day for males was 227, for females was 125. It is more at younger age group and reduces when becoming older.

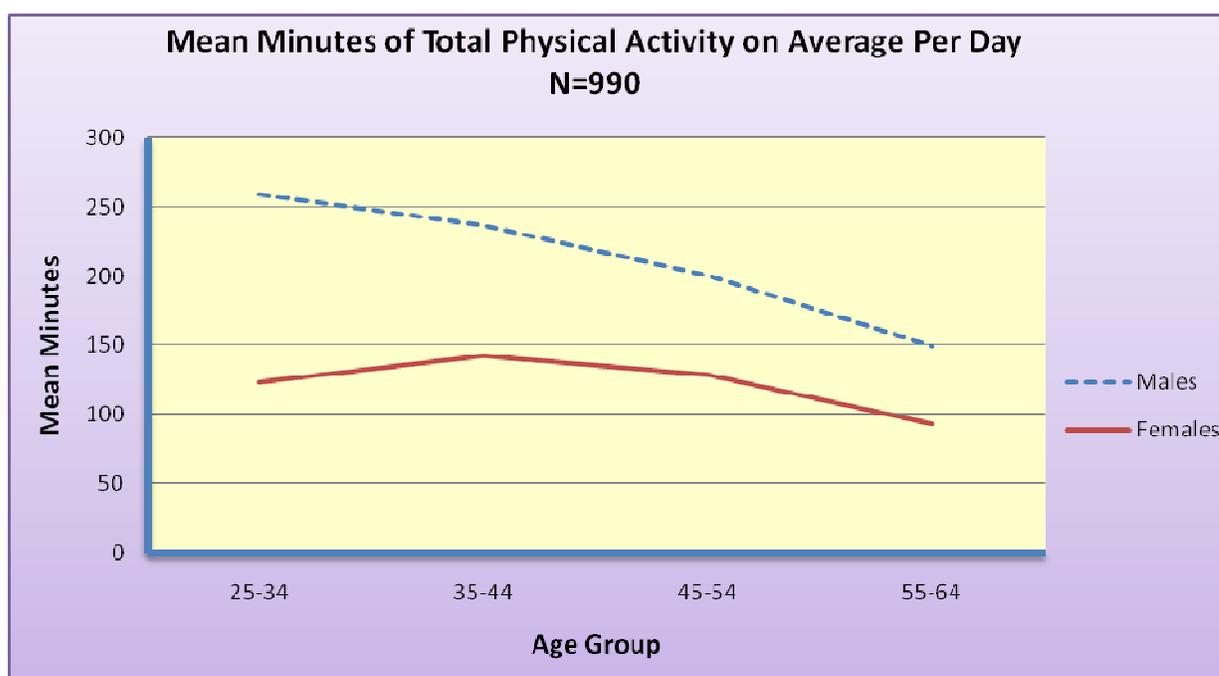


Figure 71 Mean minutes of physical activity - STEPS 2007

Table 77 Median minutes of physical activity

Median minutes of total physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
25-34	482	180.0	58.6-424.3	974	51.4	17.1-150.0	1456	94.3	25.7-312.9
35-44	255	120.0	30.0-428.6	562	60.0	15.0-210.0	817	84.3	25.7-342.9
45-54	140	90.0	13.6-360.0	413	60.0	15.0-180.0	553	64.3	15.0-257.1
55-64	113	42.9	0.0-180.0	279	34.3	8.6-120.0	392	34.3	4.3-130.0
25-64	990	120.0	30.0-390.0	2228	55.7	14.3-162.9	3218	75.0	18.0-270.7

Median minutes of total physical activity for male and female respondents range from 55-120 minutes and for both with an average of 75 minutes per day.

Table 78 Mean minutes of work related

Mean minutes of work-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
25-34	482	161.4	113.1-209.8	974	84.4	47.4-121.4	1456	122.1	78.4-165.8
35-44	255	176.1	85.6-266.6	562	104.4	40.4-168.4	817	136.9	61.3-212.5
45-54	140	146.0	68.1-223.9	413	99.0	44.6-153.5	553	120.7	59.7-181.7
55-64	113	104.5	68.4-140.6	279	62.7	27.4-98.1	392	80.5	46.7-114.4
25-64	990	154.6	90.2-219.1	2228	89.9	43.4-136.4	3218	120.0	64.9-175.1

Work related physical activity in males takes 150 minutes where as it was one and half hour for females.

Table 79 Mean minutes of transport related

Mean minutes of transport-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
25-34	482	65.0	51.5-78.4	974	33.1	23.8-42.5	1456	48.7	36.7-60.7
35-44	255	47.6	35.7-59.6	562	33.6	24.8-42.4	817	40.0	30.5-49.5
45-54	140	48.6	35.6-61.7	413	28.5	21.4-35.6	553	37.8	29.2-46.4
55-64	113	43.0	20.8-65.1	279	28.7	16.3-41.0	392	34.7	18.6-50.9
25-64	990	54.3	48.0-60.6	2228	31.6	24.4-38.7	3218	42.1	35.7-48.6

Transport related physical activity either walking or cycling etc. for both sexes is less than 1 hour. Especially it is very low in females as compared to that of males.

Table 80 Mean minutes recreation related

Mean minutes of recreation-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Mean minutes	95% CI	n	Mean minutes	95% CI	n	Mean minutes	95% CI
25-34	482	32.9	26.8-39.1	974	6.0	3.6-8.4	1456	19.2	16.0-22.3
35-44	255	13.5	5.9-21.0	562	4.7	1.7-7.7	817	8.7	3.7-13.6
45-54	140	6.0	1.4-10.6	413	1.4	0.0-3.3	553	3.5	1.3-5.7
55-64	113	1.6	0.3-2.9	279	1.6	0.0-4.6	392	1.6	0.0-3.7
25-64	990	18.2	14.8-21.6	2228	4.0	2.0-5.9	3218	10.6	7.8-13.3

Recreation related physical activity for both sexes is almost non existence (10 minutes) in a day. In the bar graph below work related activity, followed by transport activity is the highest minutes spent on physical activity per day.

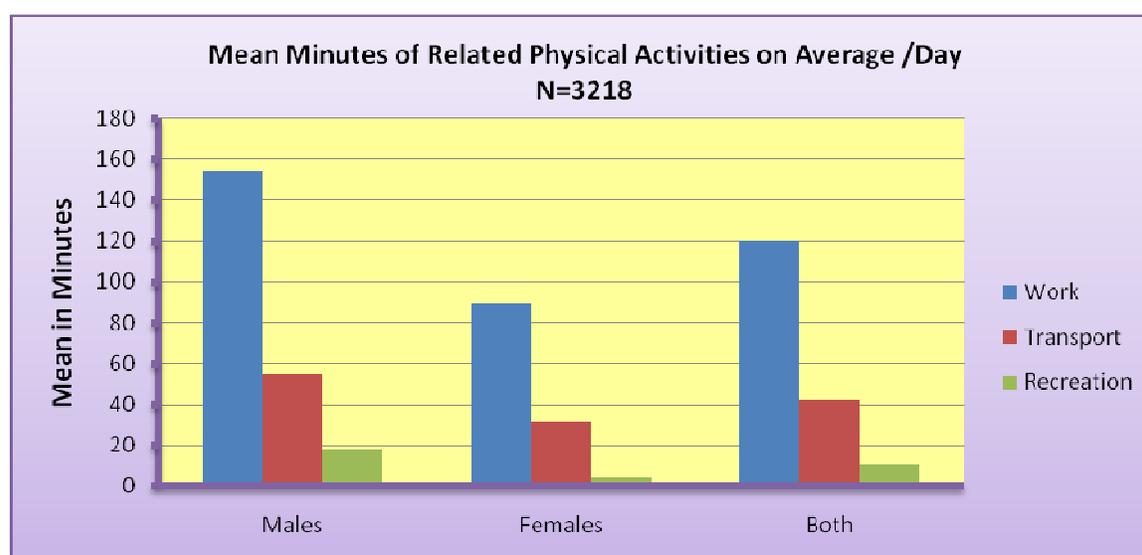


Figure 72 Mean minutes of related physical activity - STEPS 2007

Table 81 Median minutes of work-related

Median minutes of work-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
25-34	482	38.6	0.0-342.9	974	8.6	0.0-90.0	1456	17.1	0.0-180.0
35-44	255	25.7	0.0-342.9	562	17.1	0.0-154.3	817	25.7	0.0-240.0
45-54	140	4.3	0.0-240.0	413	12.9	0.0-128.6	553	8.6	0.0-184.3
55-64	113	0.0	0.0-94.3	279	0.0	0.0-68.6	392	0.0	0.0-75.0
25-64	990	17.1	0.0-334.3	2228	8.6	0.0-120.0	3218	12.9	0.0-180.0

Median minutes of work related physical activity for men was 17 minutes and women was 8 minutes on average per day. This indicates that there was hardly no physical activity involved which is work related.

Table 82 Median minutes of transport-related

Median minutes of transport-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
25-34	482	25.7	10.0-60.0	974	15.0	4.3-34.3	1456	20.0	7.1-51.4
35-44	255	20.0	4.3-42.9	562	15.0	4.3-34.3	817	17.1	4.3-34.3
45-54	140	19.3	2.1-51.4	413	15.0	4.3-34.3	553	17.1	2.9-42.9
55-64	113	25.7	0.0-60.0	279	12.9	2.1-34.3	392	17.1	0.0-42.9
25-64	990	25.7	4.3-60.0	2228	15.0	4.3-34.3	3218	17.1	4.3-42.9

Median time taken in a transport related physical activity was 30 minutes per day in males and fifteen minutes in females.

Table 83 Median minutes of recreation-related

Median minutes of recreation-related physical activity on average per day									
Age Group (years)	Men			Women			Both Sexes		
	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)	n	Median minutes	Inter-quartile range (P25-P75)
25-34	482	0.0	0.0-51.4	974	0.0	0.0-0.0	1456	0.0	0.0-8.6
35-44	255	0.0	0.0-12.9	562	0.0	0.0-0.0	817	0.0	0.0-0.0
45-54	140	0.0	0.0-0.0	413	0.0	0.0-0.0	553	0.0	0.0-0.0
55-64	113	0.0	0.0-0.0	279	0.0	0.0-0.0	392	0.0	0.0-0.0
25-64	990	0.0	0.0-12.9	2228	0.0	0.0-0.0	3218	0.0	0.0-0.0

The median time allocated to recreational physical activity on average per day was nil in both sexes.

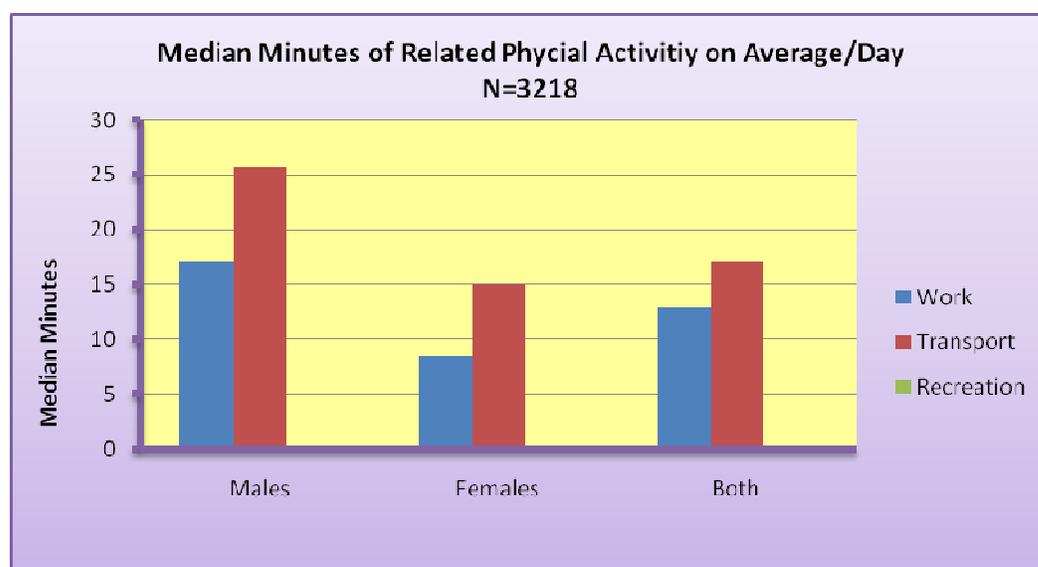


Figure 73 Median minutes related to physical activity - STEPS 2007

Table 84 No work-related physical activity

No work-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no activity at work	95% CI	n	% no activity at work	95% CI	n	% no activity at work	95% CI
25-34	482	36.2	16.0-56.5	974	48.5	24.9-72.2	1456	42.5	20.5-64.6
35-44	255	35.4	12.9-57.9	562	44.6	13.8-75.5	817	40.5	14.1-66.8
45-54	140	47.9	29.9-66.0	413	46.0	23.9-68.1	553	46.9	29.2-64.6
55-64	113	56.8	45.9-67.7	279	53.9	35.8-72.1	392	55.2	43.6-66.7
25-64	990	41.2	22.6-59.8	2228	47.7	24.1-71.3	3218	44.7	23.8-65.5

The percentage of no work, no transport related physical activity in male and female respondents has no difference between them. The no activity during recreation is more in females as compared to males and yet both fall as high as 70 -90%.

Table 85 No transport-related activity

No transport-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no activity for transport	95% CI	n	% no activity for transport	95% CI	n	% no activity for transport	95% CI
25-34	482	15.1	0.0-31.9	974	17.8	2.0-33.5	1456	16.5	0.6-32.3
35-44	255	20.3	2.0-38.7	562	19.5	1.9-37.1	817	19.9	4.2-35.6
45-54	140	22.6	1.1-44.0	413	22.1	7.2-37.0	553	22.3	8.3-36.4
55-64	113	29.0	6.9-51.1	279	24.4	5.8-43.0	392	26.4	7.5-45.2
25-64	990	19.8	3.6-36.0	2228	20.2	4.6-35.8	3218	20.0	5.3-34.7

Table 86 No recreation-related activity

No recreation-related physical activity									
Age Group (years)	Men			Women			Both Sexes		
	n	% no activity during recreation	95% CI	n	% no activity during recreation	95% CI	n	% no activity during recreation	95% CI
25-34	482	56.1	46.1-66.1	974	87.4	82.0-92.8	1456	72.1	65.4-78.8
35-44	255	73.2	57.1-89.3	562	87.5	80.9-94.1	817	81.0	70.4-91.7
45-54	140	85.6	75.6-95.7	413	95.1	89.9-100.0	553	90.8	85.4-96.1
55-64	113	93.5	86.6-100.0	279	96.2	90.2-100.0	392	95.1	89.1-100.0
25-64	990	71.6	59.4-83.8	2228	90.5	85.5-95.4	3218	81.7	73.5-89.9

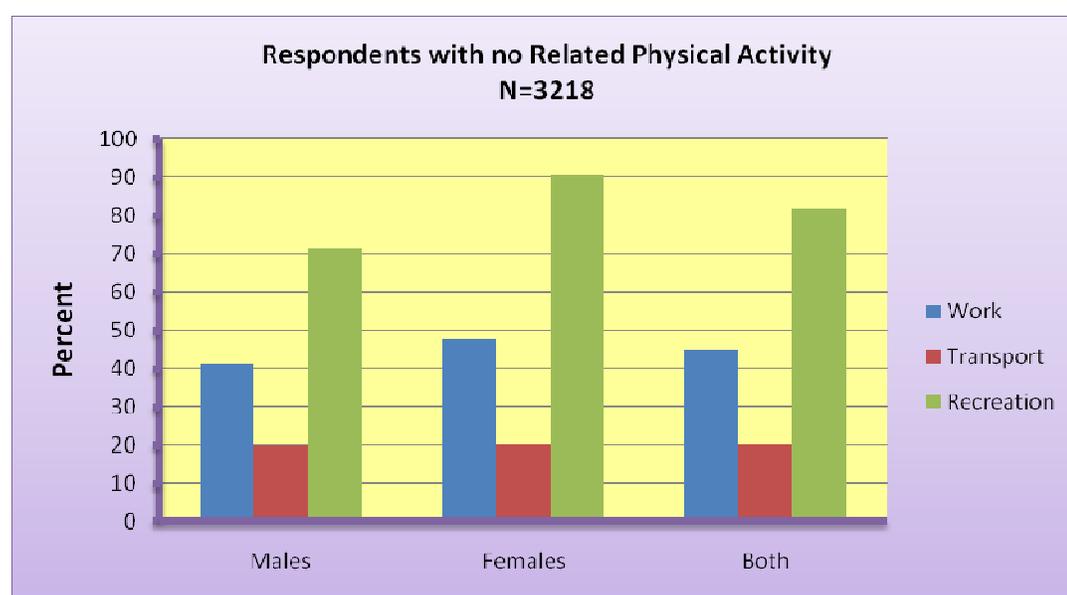


Figure 74 No related physical activity - STEPS 2007

Table 87 Composition of Total Physical activity m- Males

Composition of total physical activity							
Age Group (years)	Men						
	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
25-34	460	43.6	34.7-52.6	39.4	32.2-46.6	16.9	11.9-22.0
35-44	241	49.8	36.2-63.4	41.1	25.5-56.6	9.2	5.0-13.3
45-54	128	45.5	31.6-59.5	48.8	33.4-64.2	5.7	1.2-10.1
55-64	89	38.0	30.5-45.4	59.8	49.9-69.8	2.2	0.0-5.7
25-64	918	45.0	34.3-55.8	44.0	31.6-56.3	11.0	7.8-14.2

The total physical activity is contributed from work by 45%, from transport 44% and leisure time 11% in males. It is as well the same in females except during leisure time as seen in Table 88, Fig. 76 below

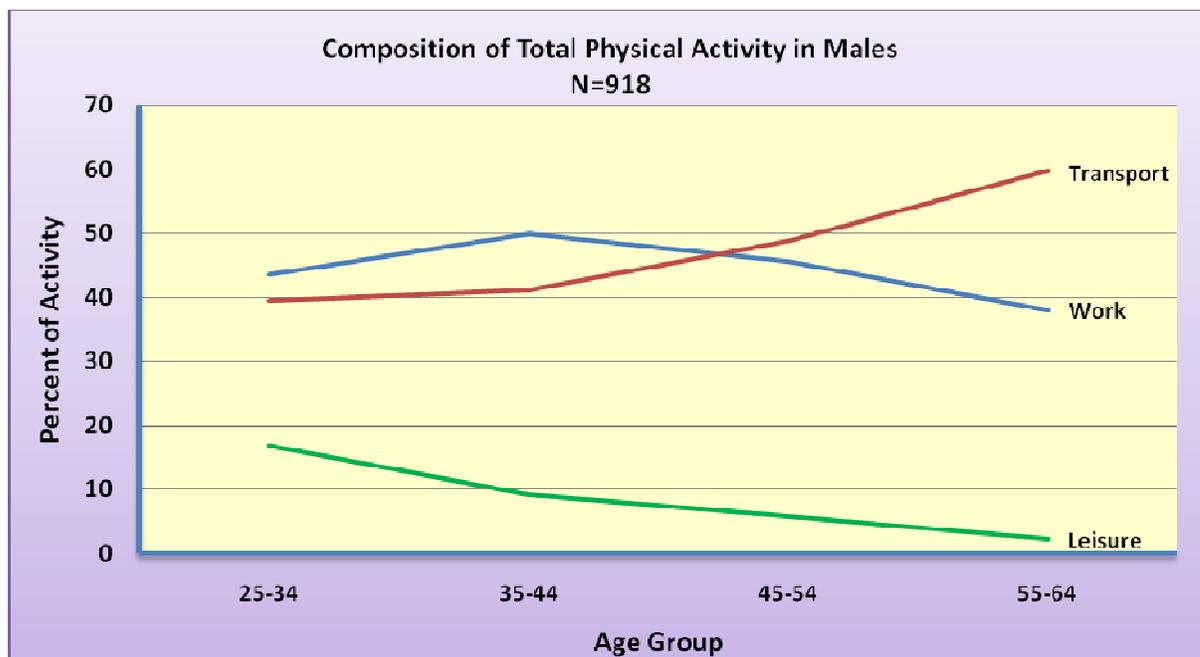


Figure 75 Physical activity in males - STEPS 2007

Table 88 Composition of Total physical activity - Females

Composition of total physical activity							
Age Group (years)	Women						
	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
25-34	893	41.5	26.8-56.3	52.2	36.7-67.7	6.3	0.9-11.6
35-44	509	47.5	22.6-72.3	45.9	20.5-71.4	6.6	0.0-14.6
45-54	360	49.2	30.9-67.5	48.2	30.5-65.9	2.6	0.0-6.4
55-64	240	41.5	20.9-62.2	55.6	32.6-78.5	2.9	0.0-8.7
25-64	2002	44.8	26.4-63.3	50.1	30.8-69.4	5.1	0.0-10.6

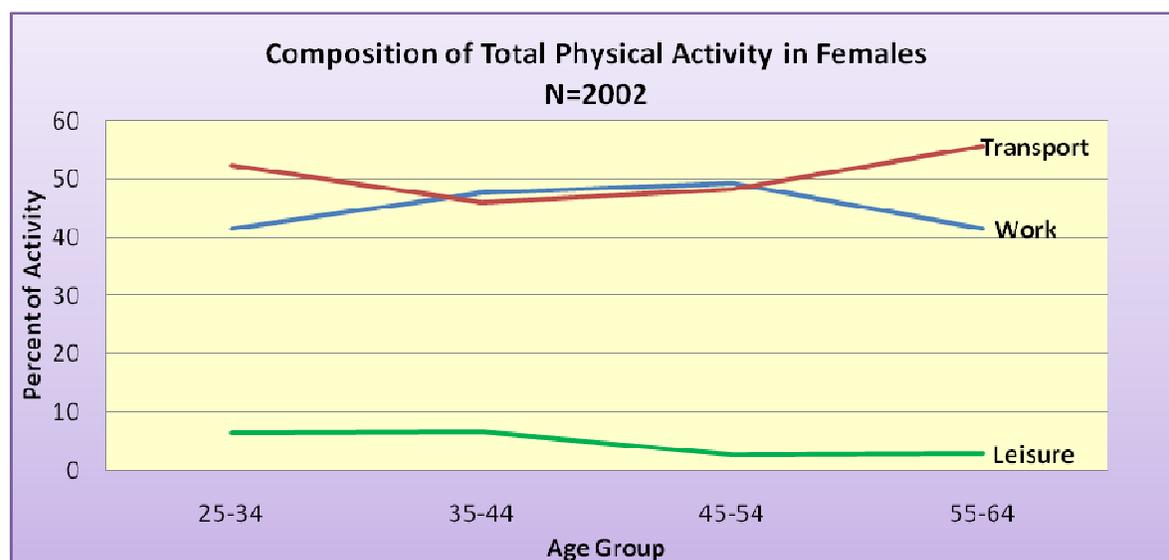


Figure 76 Physical activity in females - STEPS 2007

Table 89 Composition of total physical activity - Both sexes

Composition of total physical activity							
Age Group (years)	Both Sexes						
	n	% Activity from work	95% CI	% Activity for transport	95% CI	% Activity during leisure time	95% CI
25-34	1353	42.6	30.8-54.4	45.8	34.1-57.5	11.6	6.6-16.6
35-44	750	48.5	29.6-67.5	43.7	23.5-63.9	7.8	2.1-13.5
45-54	488	47.5	32.2-62.8	48.5	32.4-64.5	4.0	1.7-6.4
55-64	329	40.1	24.9-55.3	57.3	39.7-74.8	2.6	0.0-7.4
25-64	2920	44.9	30.3-59.6	47.2	31.3-63.1	7.8	3.5-12.1

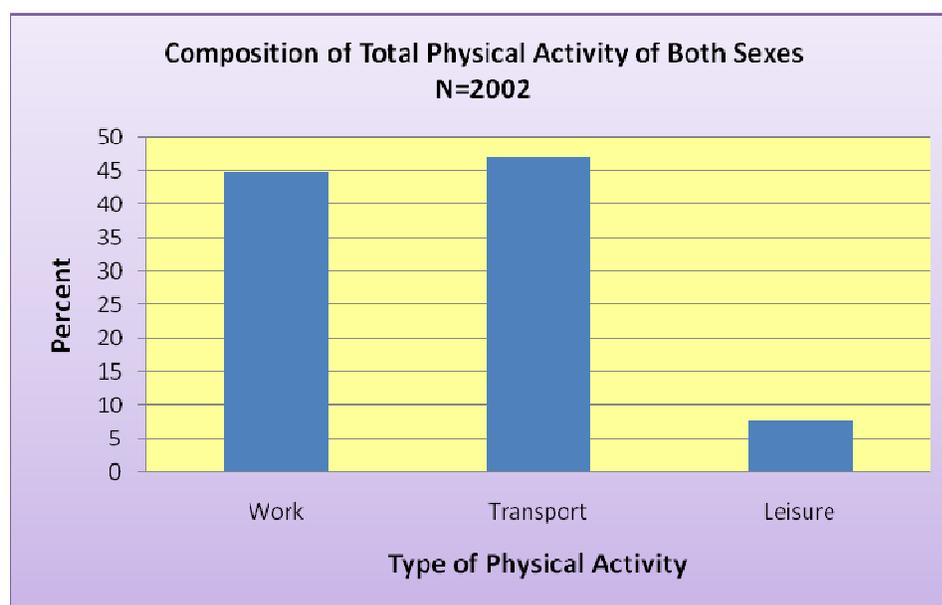


Figure 77 Physical activity in both sexes - STEPS 2007

The percentage of total physical activity was seen to get reduced and approached towards leisure time.

Table 90 No vigorous physical activity

Age Group (years)	No vigorous physical activity								
	Men			Women			Both Sexes		
	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI
25-34	482	50.1	44.6-55.7	974	83.8	75.5-92.2	1456	67.3	59.8-74.9
35-44	255	56.3	45.1-67.4	562	82.3	71.3-93.4	817	70.5	59.6-81.4
45-54	140	65.2	59.4-71.0	413	83.9	76.8-91.1	553	75.3	70.3-80.2
55-64	113	86.1	80.4-91.7	279	89.1	85.9-92.3	392	87.8	84.4-91.2
25-64	990	59.5	51.8-67.1	2228	84.2	77.0-91.4	3218	72.7	65.8-79.6

Percentage of respondents not engaging in vigorous physical activity in males was 60% and in females 84%.

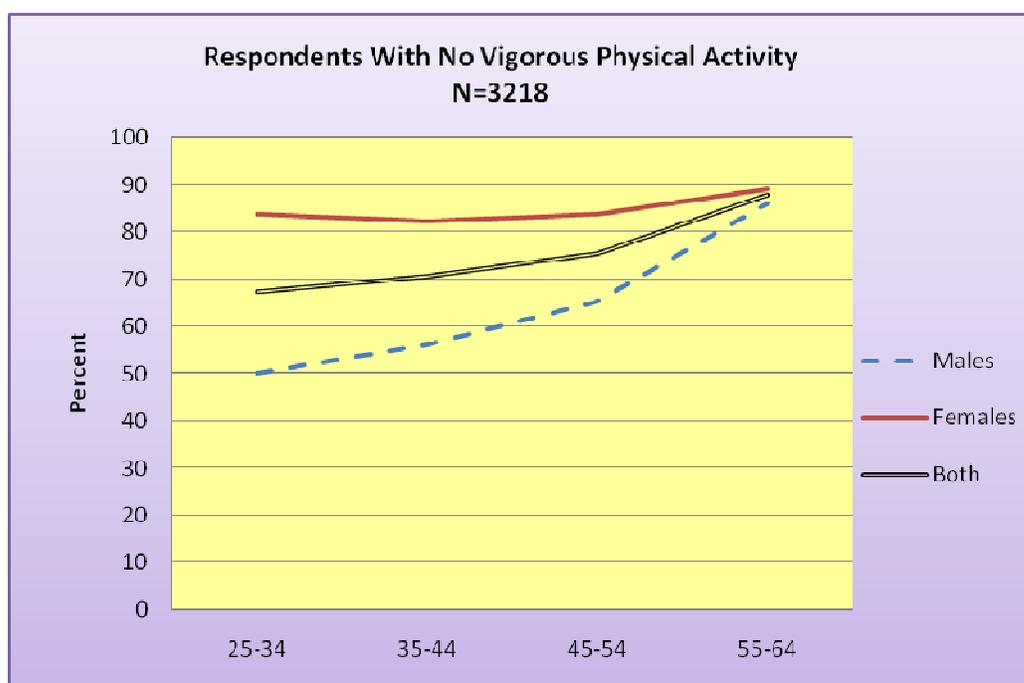


Figure 78 No vigorous physical activity - STEPS 2007

Table 91 No vigorous physical activity – Males

Minutes spent in sedentary activities on average per day					
Age Group (years)	Men				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
25-34	634	186.7	123.8-249.5	120.0	60.0-240.0
35-44	325	185.1	132.3-237.9	160.0	45.0-240.0
45-54	179	205.0	151.1-258.9	180.0	60.0-300.0
55-64	145	229.3	180.9-277.6	120.0	30.0-300.0
25-64	1283	195.6	150.3-240.8	150.0	60.0-300.0

The mean number of minutes spent in sedentary activities on a typical day on average was 195 minutes in males and 198 minutes in females with no marked difference between them. The median minutes also range between 120 – 150 minutes for all age groups.

Table 92 No vigorous physical activity - Females

Minutes spent in sedentary activities on average per day					
Age Group (years)	Women				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
25-34	1168	199.4	150.1-248.7	120.0	60.0-300.0
35-44	690	182.9	134.6-231.2	120.0	60.0-240.0
45-54	508	194.2	157.0-231.4	120.0	45.0-300.0
55-64	353	230.0	179.8-280.2	160.0	45.0-360.0
25-64	2719	198.4	156.9-239.8	120.0	60.0-300.0

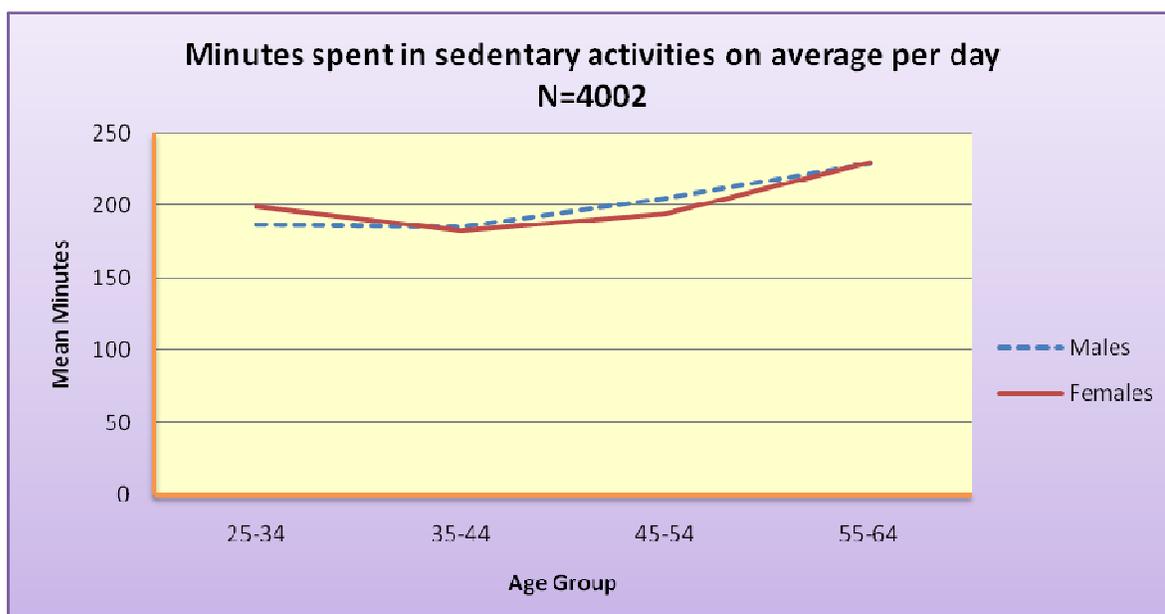


Figure 79 Mean minutes spent in sedentary activity - STEPS 2007

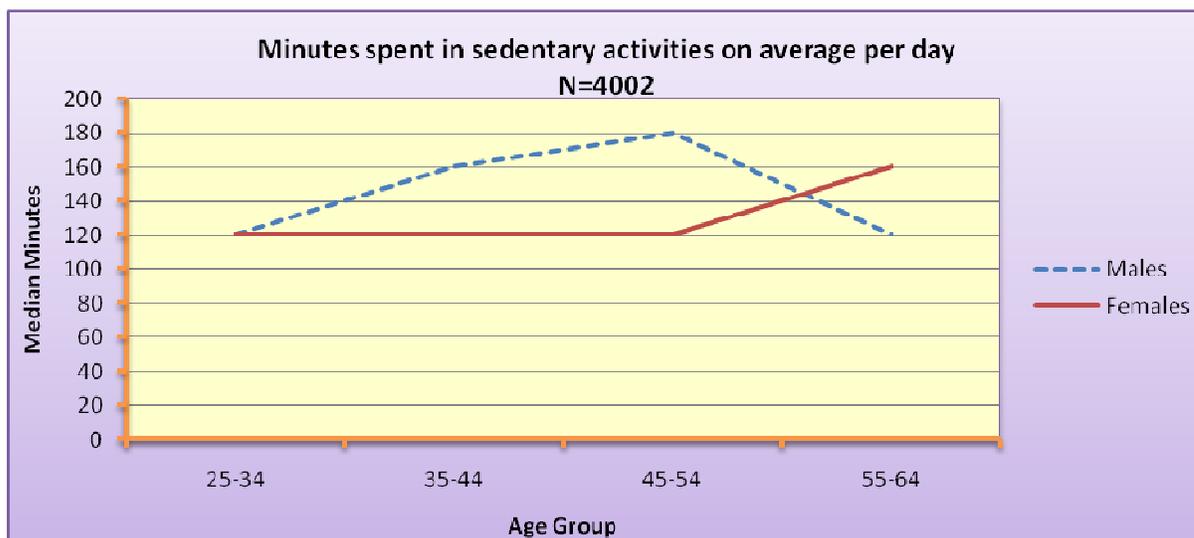


Figure 80 Median minutes spent on sedentary activity - STEPS 2007

Table 93 Minutes spent on sedentary activity

Minutes spent in sedentary activities on average per day					
Age Group (years)	Both Sexes				
	n	Mean minutes	95% CI	Median minutes	Inter-quartile range (P25-P75)
25-34	1802	192.9	140.4-245.4	120.0	60.0-300.0
35-44	1015	183.9	137.2-230.7	150.0	60.0-240.0
45-54	687	199.3	160.0-238.6	180.0	60.0-300.0
55-64	498	229.7	187.6-271.8	120.0	30.0-360.0
25-64	4002	197.0	158.2-235.9	135.0	60.0-300.0

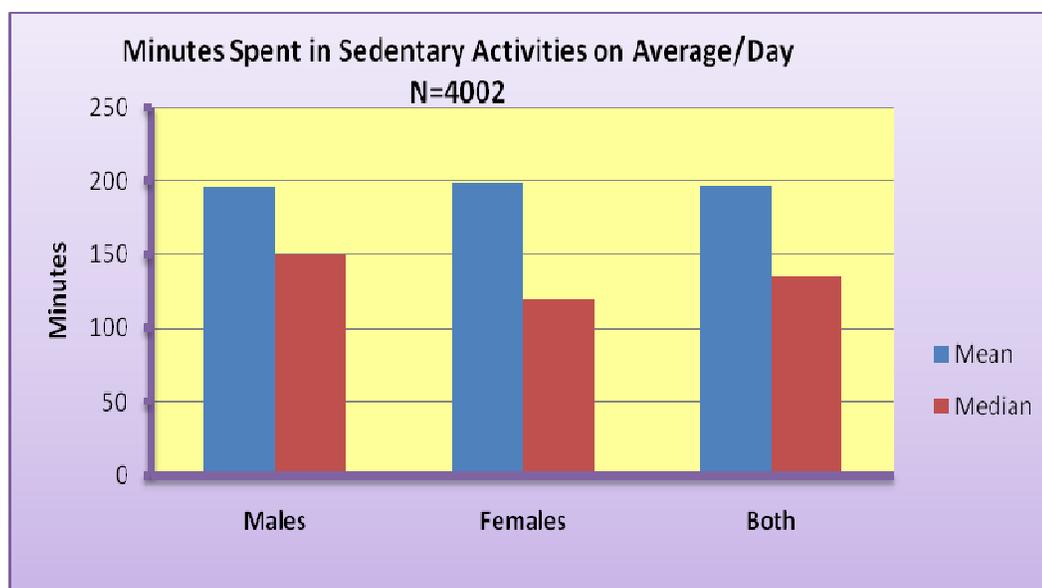


Figure 81 Minutes spent in sedentary activity - STEPS 2007

The mean and median minutes spent in sedentary activities in both sexes had no marked difference.

HISTORY OF BLOOD PRESSURE AND DIABETES

Table 94 diagnosed by health worker

Raised blood pressure diagnosed by doctor or health worker in last 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	% diagnosed	95% CI	n	% diagnosed	95% CI	n	% diagnosed	95% CI
25-34	575	5.1	1.8-8.4	1078	6.9	5.0-8.7	1653	6.0	3.7-8.3
35-44	296	9.3	5.4-13.2	643	18.9	15.2-22.6	939	14.6	11.1-18.0
45-54	164	16.2	10.8-21.7	484	28.0	21.4-34.6	648	22.6	17.1-28.1
55-64	132	21.5	7.7-35.3	326	42.9	38.4-47.3	458	33.7	29.1-38.2
25-64	1167	10.6	8.6-12.6	2531	20.1	17.3-23.0	3698	15.7	13.8-17.5

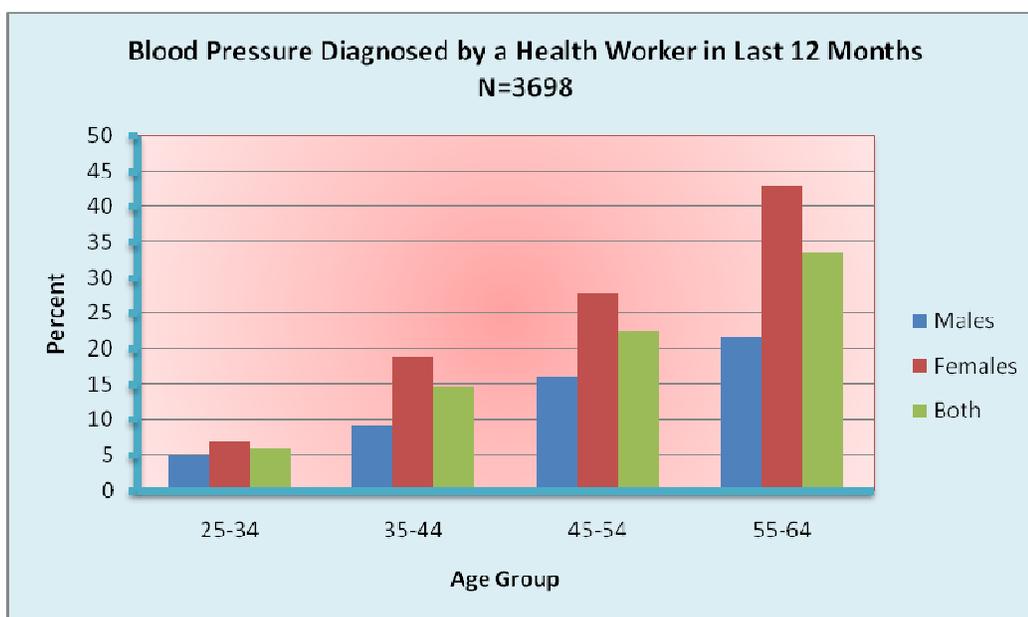


Figure 82 BP diagnosed by health worker - STEPS 2007

Among all respondents 11% of males and 20% of females were diagnosed by health workers as having raised blood pressure, but 5% of the males and 14% of the females were only taking drugs for raised blood pressure as prescribed by the health worker.

Table 95 Taking BP drugs prescribed by health worker

Currently taking blood pressure drugs prescribed health worker

Age Group (years)	Men			Women			Both Sexes		
	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
25-34	586	1.0	0.0-2.0	1084	1.9	0.3-3.6	1670	1.5	0.2-2.8
35-44	306	4.0	2.7-5.2	653	9.9	5.9-14.0	959	7.2	4.3-10.1
45-54	168	10.1	4.2-16.0	481	21.2	17.9-24.5	649	16.0	12.5-19.4
55-64	133	12.6	3.9-21.3	328	38.6	33.8-43.4	461	27.3	21.0-33.7
25-64	1193	5.2	3.2-7.2	2546	13.9	10.3-17.5	3739	9.7	6.8-12.7

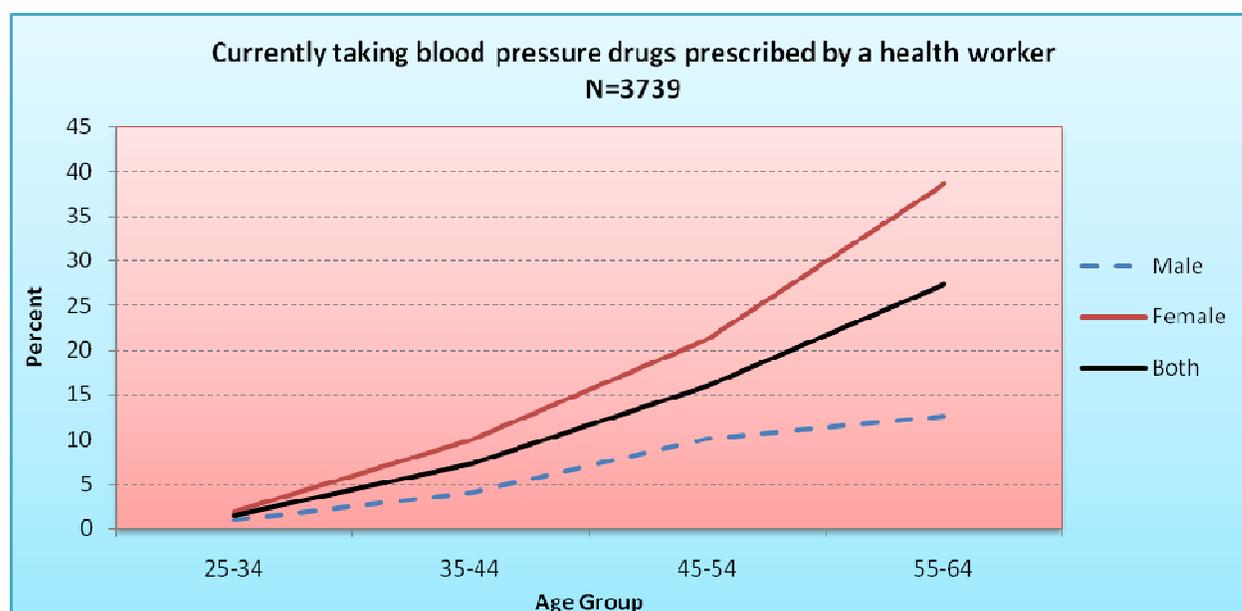


Figure 83 Drugs prescribed by health workers - STEPS 2007

Table 96 Advised by health worker on diet

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	579	2.2	0.1-4.3	1070	4.0	1.0-7.1	1649	3.1	0.5-5.7
35-44	302	6.7	3.3-10.0	644	11.1	7.6-14.6	946	9.1	6.3-11.9
45-54	165	6.6	2.9-10.4	474	17.9	11.9-24.0	639	12.6	8.1-17.2
55-64	131	9.3	4.3-14.3	324	30.2	27.9-32.5	455	21.3	18.8-23.8
25-64	1177	5.1	2.8-7.5	2512	12.9	10.8-15.1	3689	9.2	7.1-11.3

Lifestyle advice on special diet was given by health workers to 5% of male and 13% of respondents diagnosed to have raised blood pressure.

Table 97 Advised by health worker to lose weight

Advised by doctor or health worker to lose weight

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	585	1.9	0.0-4.4	1067	3.0	1.3-4.8	1652	2.5	0.7-4.2
35-44	302	4.8	3.3-6.4	647	7.6	4.7-10.4	949	6.3	4.7-7.9
45-54	162	3.3	0.0-6.7	472	10.5	6.7-14.3	634	7.2	4.2-10.2
55-64	131	4.0	0.0-7.9	321	14.6	12.5-16.7	452	10.0	8.3-11.7
25-64	1180	3.2	1.2-5.1	2507	7.7	6.6-8.8	3687	5.5	4.4-6.6

Respondents with raised blood pressure were advised by health workers to 3% of males, and 8% of females to lose weight.

Table 98 Advised by health worker to stop smoking

Advised by doctor or health worker to stop smoking									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	574	2.9	1.0-4.8	1054	0.6	0.0-1.1	1628	1.8	0.8-2.7
35-44	298	8.9	2.9-14.9	627	3.0	1.5-4.5	925	5.7	2.8-8.6
45-54	164	6.9	1.6-12.1	467	3.1	1.0-5.2	631	4.9	2.3-7.4
55-64	129	7.9	0.0-17.5	311	5.5	1.8-9.3	440	6.6	3.5-9.6
25-64	1165	5.9	2.7-9.0	2459	2.5	1.4-3.6	3624	4.1	2.3-5.9

Respondents diagnosed as having raised blood pressure were advised by a health worker to stop smoking in 6% of males and 3% of females where as the health worker advised to do more exercise in 5% of the males and 9% of females.

Table 99 advised by health worker to do exercise

Advised by doctor or health worker to start or do more exercise									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	578	4.0	0.8-7.3	1068	4.3	1.8-6.7	1646	4.2	1.5-6.8
35-44	303	6.3	0.9-11.7	640	8.4	5.8-11.0	943	7.5	4.7-10.3
45-54	161	5.1	0.0-11.8	470	10.9	5.6-16.2	631	8.2	2.6-13.9
55-64	131	8.2	0.0-16.5	323	18.4	14.8-22.0	454	14.0	10.3-17.7
25-64	1173	5.3	1.9-8.8	2501	9.0	6.9-11.0	3674	7.2	4.7-9.8

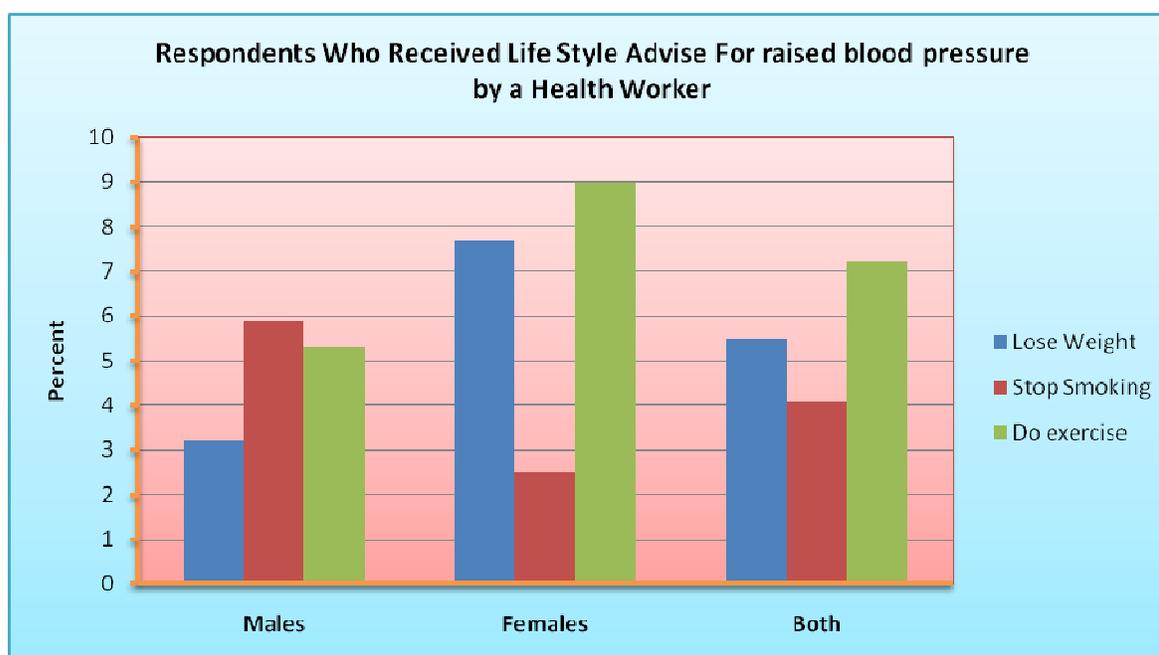


Figure 84 Lifestyle advices given by health worker - STEPS 2007

Table 100 Seen a traditional healer

Seen a traditional healer in the last 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	588	0.2	0.0-0.6	1079	0.6	0.0-1.1	1667	0.4	0.0-0.8
35-44	301	0.0	0.0-0.0	652	1.1	0.0-2.4	953	0.6	0.0-1.2
45-54	165	3.8	0.0-9.2	477	2.4	0.6-4.1	642	3.0	0.0-6.1
55-64	132	4.6	0.0-10.0	324	4.2	2.9-5.5	456	4.4	2.2-6.5
25-64	1186	1.5	0.4-2.6	2532	1.6	1.1-2.2	3718	1.6	0.8-2.3

Less than 2% of male and female respondents had seen a traditional healer in the last one year. The highest percentage of age group to see traditional healers were from the middle age and elderly of both.

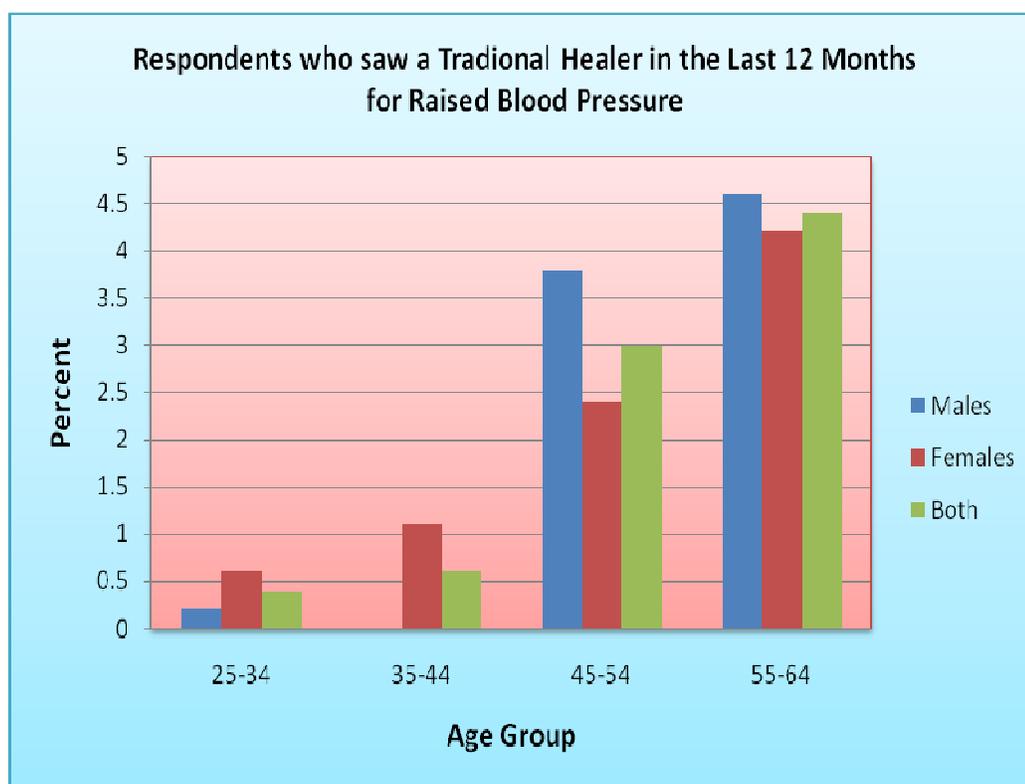


Figure 85 seen traditional healer for raised BP bar graph - STEPS 2007

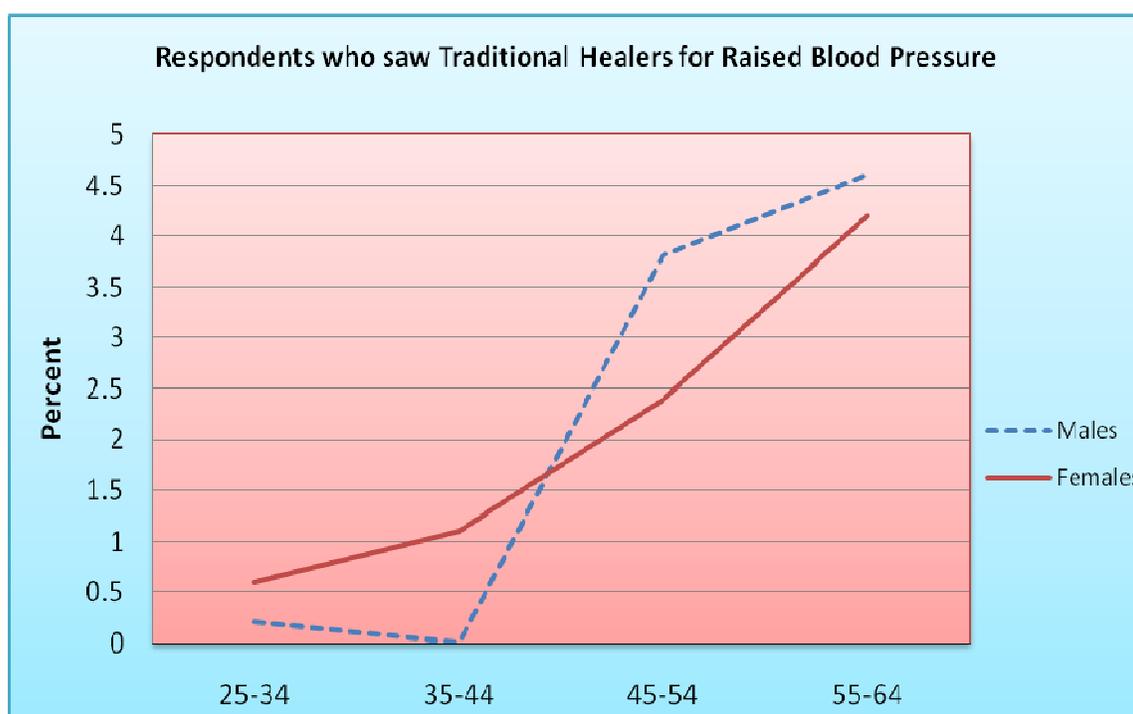


Figure 86 Seen traditional healer for raised BP line graph - STEPS 2007

Table 101 Taking herbal remedy for BP

Currently taking herbal or traditional remedy for high blood pressure											
Age Group (years)	Men				Women			Both Sexes			
	n	%	95% CI		n	%	95% CI	n	%	95% CI	
25-34	2	00.0	00.0-00.0		6	26.4	0.0-92.1		8	15.3	0.0-42.9
35-44	4	74.3	8.9-100.0		10	46.4	0.0-94.6		14	56.4	25.2-87.6
45-54	4	65.8	18.4-100.0		8	20.0	0.0-50.2		12	49.8	23.7-75.8
55-64	6	23.6	00.0-82.7		13	77.1	28.3-100.0		19	54.3	0.0-100.0
25-64	16	50.7	29.4-71.9		37	48.1	24.7-71.6		53	49.4	31.5-67.3

50% of male and female respondents who saw traditional healers for high blood pressure were taking herbal or traditional remedy.

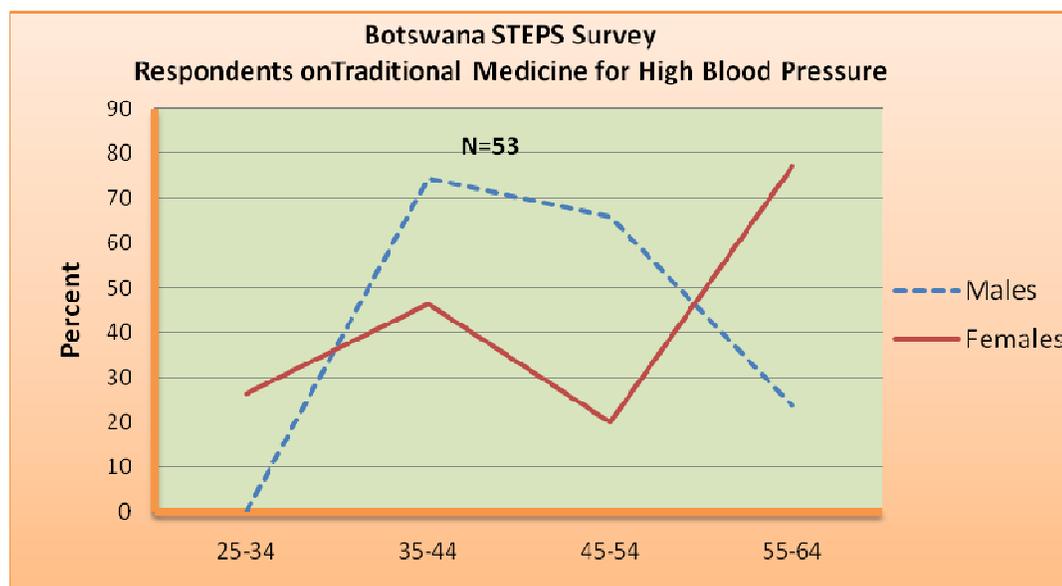


Figure 87 On traditional medicine for high BP - STEPS 2007

Table 102 Diabetes diagnosed by health worker

Diabetes diagnosed by doctor or health worker in last 12 months

Age Group (years)	Men			Women			Both Sexes		
	n	% diagnosed	95% CI	n	% diagnosed	95% CI	n	% diagnosed	95% CI
25-34	612	0.4	0.0-0.9	1110	0.2	0.0-0.4	1722	0.3	0.0-0.7
35-44	310	0.9	0.0-2.0	660	1.6	0.9-2.3	970	1.3	0.6-2.0
45-54	174	0.3	0.0-1.0	489	3.0	1.1-4.8	663	1.7	0.5-2.9
55-64	135	4.2	1.6-6.7	339	8.2	6.6-9.8	474	6.5	5.2-7.8
25-64	1231	1.0	0.6-1.3	2598	2.4	1.5-3.3	3829	1.7	1.1-2.3

Among all respondents 1% of males and 2% of females were diagnosed by health workers as having diabetes and was more prevalent in 55-64 age groups.

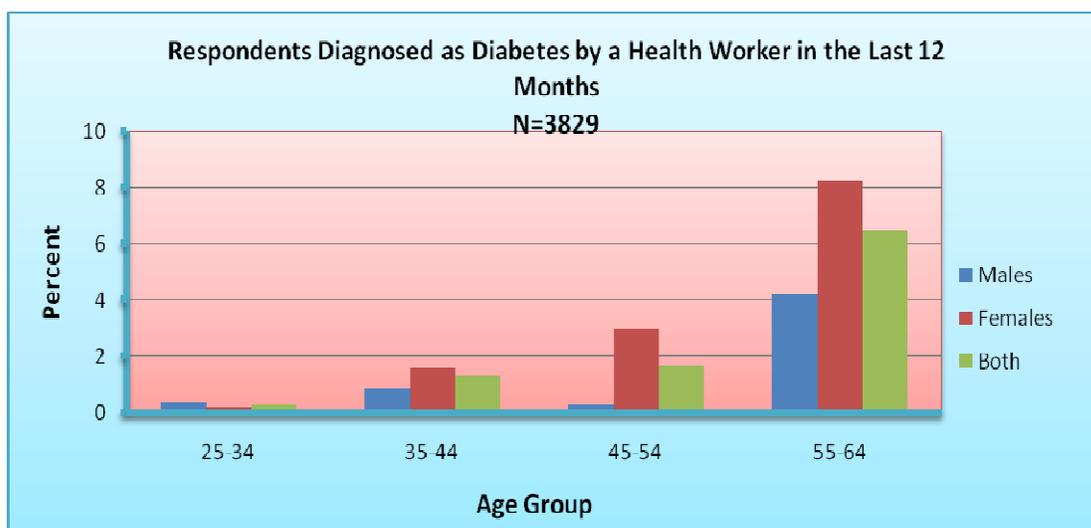


Figure 88 Diabetes diagnosed by health worker - STEPS 2007

Table 103 Taking Insulin for diabetes

Currently taking insulin prescribed for diabetes by doctor or health worker									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking insulin	95% CI	n	% taking insulin	95% CI	n	% taking insulin	95% CI
25-34	64	0.7	0.0-2.7	105	0.0	0.0-0.0	169	0.4	0.0-1.5
35-44	25	0.0	0.0-0.0	108	3.4	0.0-7.6	133	2.2	0.0-4.4
45-54	28	5.3	0.0-13.8	83	1.8	0.0-6.2	111	3.6	0.0-7.5
55-64	27	3.2	0.0-12.3	65	8.2	0.0-17.6	92	5.9	0.0-13.1
25-64	144	2.3	0.0-5.6	361	3.0	0.0-6.0	505	2.7	0.7-4.6

Less than 3% of male and female respondents diagnosed for diabetes by health workers were prescribed with insulin and those who were taking oral drugs prescribed by health workers were 4.5% males and 10% females.

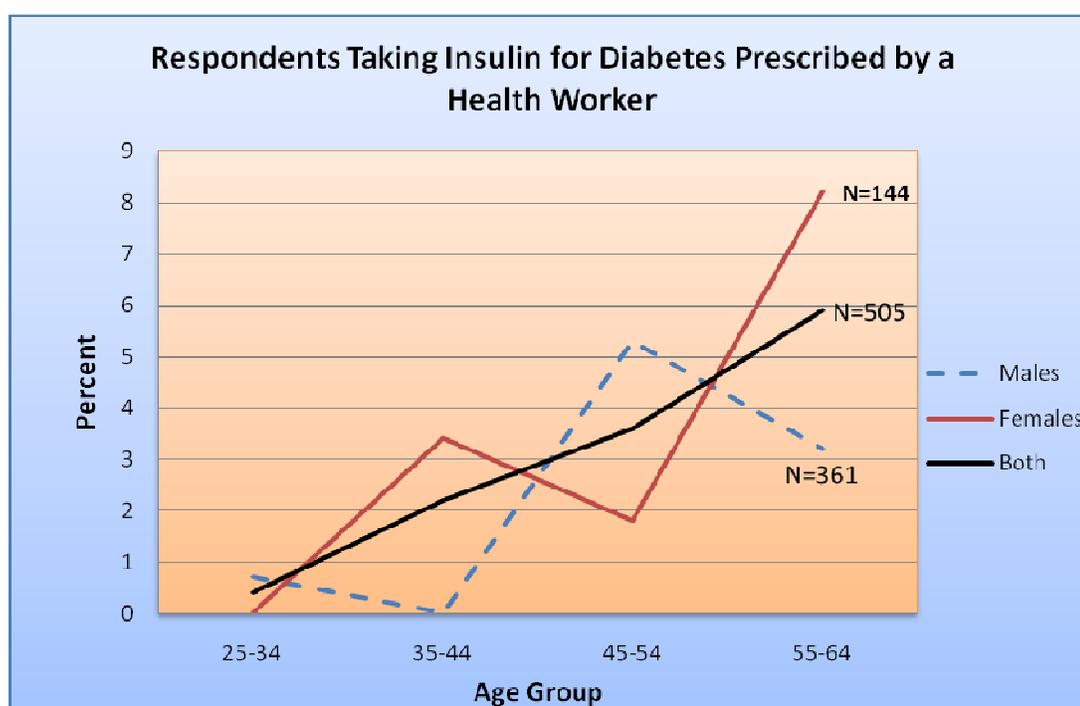


Figure 89 Diabetes prescribed insulin - STEPS 2007

Table 104 Taking oral drugs for diabetes

Currently taking oral drugs prescribed for diabetes by doctor or health worker									
Age Group (years)	Men			Women			Both Sexes		
	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
25-34	62	2.1	0.0-7.0	97	1.0	0.0-3.3	159	1.6	0.0-4.2
35-44	25	3.2	0.0-12.8	108	6.9	0.0-15.4	133	5.5	0.0-12.0
45-54	28	1.4	0.0-5.5	82	9.4	0.0-26.1	110	5.3	0.0-15.4
55-64	28	14.9	2.0-27.8	71	25.4	2.8-48.1	99	20.5	3.3-37.8
25-64	143	4.5	0.0-9.7	358	9.8	0.0-20.8	501	7.2	0.1-14.4

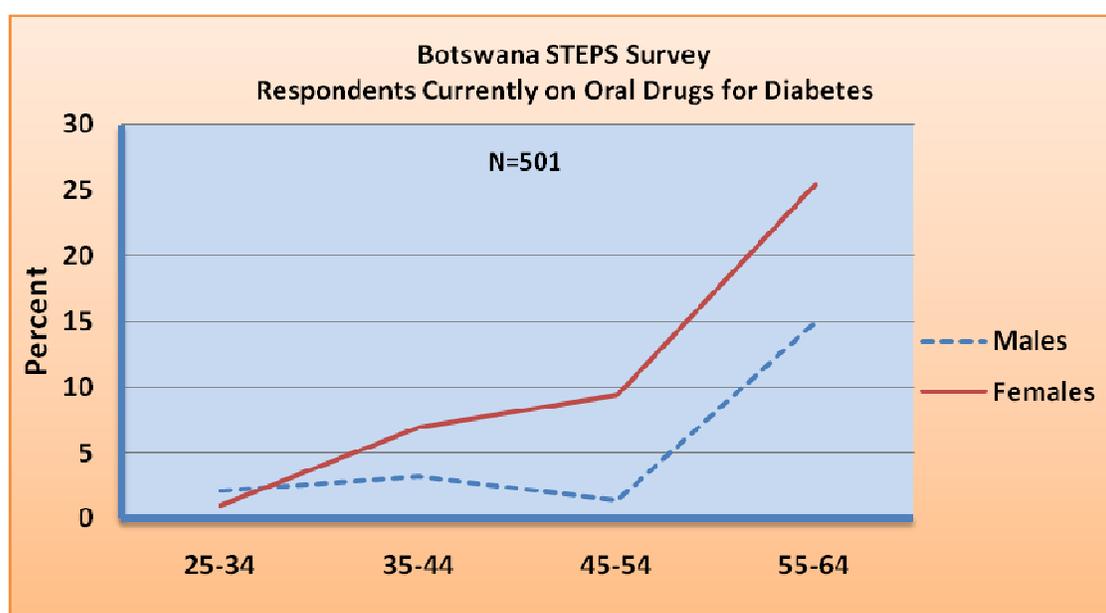


Figure 90 Diabetes on oral drugs - STEPS 2007

Table 105 Advised by a doctor for diabetes diet

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	N	%	95% CI	n	%	95% CI
25-34	61	2.2	0.0-6.5	95	1.6	0.0-4.1	156	1.9	0.0-5.1
35-44	24	3.2	0.0-13.0	104	10.1	0.8-19.5	128	7.6	1.7-13.6
45-54	27	9.6	3.3-15.8	83	13.9	0.0-30.6	110	11.7	2.5-20.9
55-64	26	15.3	0.0-35.2	73	29.5	7.7-51.4	99	23.2	5.1-41.3
25-64	138	6.9	0.5-13.3	355	13.1	1.7-24.5	493	10.1	2.7-17.5

The percentage of respondents who were given lifestyle advice by health worker for diabetes to have special prescribed diet in males was 7% and in females 13% lose weight. An advice was also given to 3% males and 9% to females to lose weight.

Table 106 Advised by health worker to lose weight

Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	N	%	95% CI	n	%	95% CI
25-34	61	1.5	0.0-5.3	94	1.1	0.0-3.4	155	1.3	0.0-4.2
35-44	24	3.2	0.0-13.0	104	11.0	0.3-21.7	128	8.2	0.4-15.9
45-54	28	4.0	0.0-14.1	82	8.1	0.0-21.0	110	6.0	0.0-16.0
55-64	25	4.7	0.0-18.5	69	17.9	2.8-33.0	94	12.0	0.0-24.5
25-64	138	3.1	0.0-9.9	349	9.2	0.1-18.4	487	6.2	0.0-13.0

Table 107 Advised by health worker to stop smoking

Age Group (years)	Advised by doctor or health worker to stop smoking								
	Men			Women			Both Sexes		
	n	%	95% CI	N	%	95% CI	n	%	95% CI
25-34	61	0.0	0.0-0.0	94	0.6	0.0-2.3	155	0.3	0.0-1.0
35-44	23	0.0	0.0-0.0	103	1.0	0.0-3.7	126	0.6	0.0-2.4
45-54	28	2.6	0.0-11.0	81	0.6	0.0-2.4	109	1.7	0.0-5.9
55-64	26	9.1	0.0-19.3	67	3.6	0.0-11.8	93	6.2	1.6-10.7
25-64	138	2.4	0.0-5.9	345	1.3	0.0-2.9	483	1.9	0.3-3.5

Table 108 Advised by health worker to exercise

Age Group (years)	Advised doctor or health worker to start or do more exercise								
	Men			Women			Both Sexes		
	n	%	95% CI	N	%	95% CI	n	%	95% CI
25-34	61	2.2	0.0-6.5	93	0.0	0.0-0.0	154	1.3	0.0-3.4
35-44	24	3.2	0.0-13.0	104	11.7	3.2-20.2	128	8.6	1.6-15.6
45-54	28	6.6	0.0-24.7	82	8.2	0.0-19.4	110	7.4	0.0-20.3
55-64	26	13.7	0.0-29.9	69	19.8	5.4-34.1	95	17.0	6.1-28.0
25-64	139	5.8	0.0-14.6	348	9.6	2.5-16.7	487	7.7	1.0-14.4

Substantial number of female and male respondents diagnosed as diabetes were advised on diet, lose weight and to stop smoking.

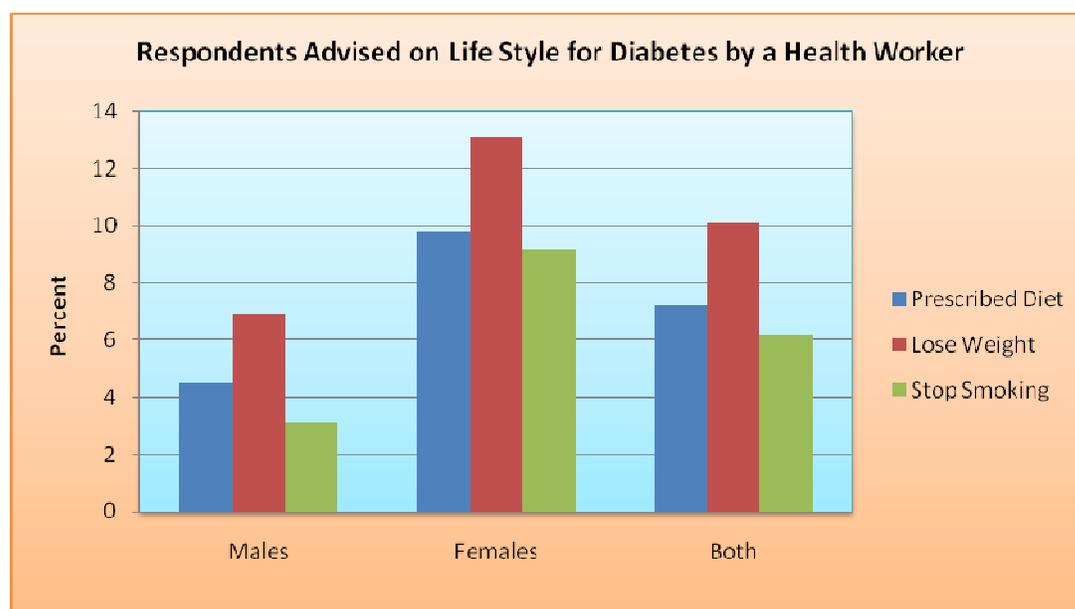


Figure 91 Lifestyle advice - STEPS 2007

Table 109 Seen a traditional healer for diabetes - STEPS 2007

Seen a traditional healer for diabetes in the last 12 months									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	N	%	95% CI	n	%	95% CI
25-34	--	--	--	94	0.0	0.0-0.0	155	0.0	0.0-0.0
35-44	--	--	--	105	1.9	0.0-6.4	129	1.2	0.0-3.9
45-54	--	--	--	84	0.0	0.0-0.0	112	0.0	0.0-0.0
55-64	--	--	--	70	0.0	0.0-0.0	96	0.0	0.0-0.0
25-64	--	--	--	353	0.6	0.0-1.7	492	0.3	0.0-0.8

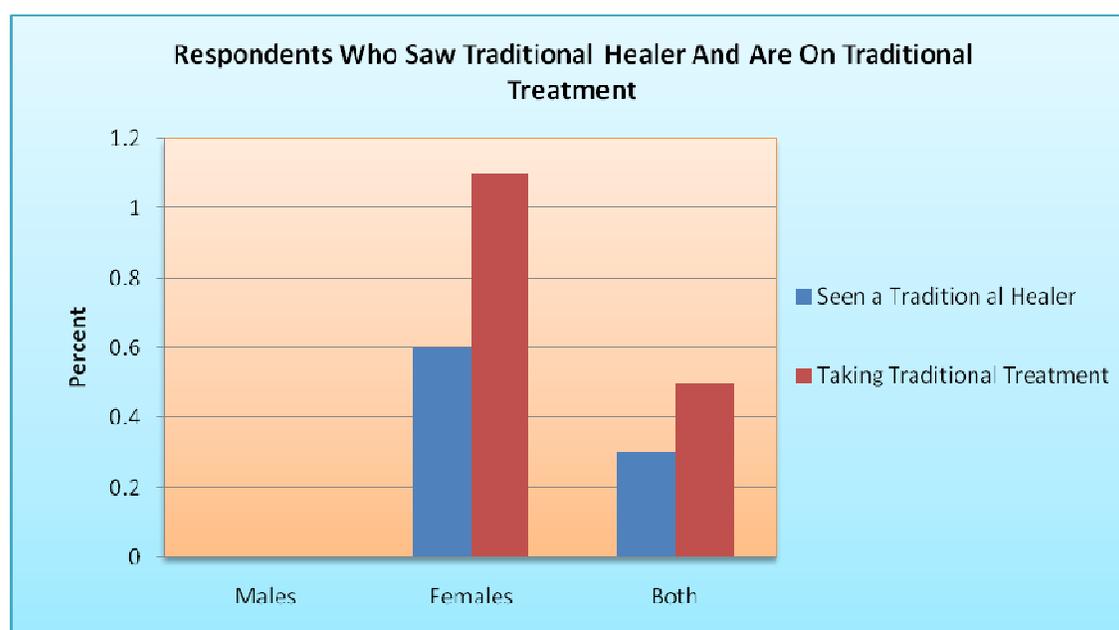


Figure 92 Diabetes on traditional treatment - STEPS 2007

The percentage of respondents who got advice or are taking herbal treatment from traditional healers for diabetes were only females (1%).

Table 110 Taking herbal treatment for diabetes

Currently taking herbal or traditional treatment for diabetes									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	--	--	--	90	0.0	0.0-0.0	151	0.0	0.0-0.0
35-44	--	--	--	105	1.5	0.0-4.3	129	1.0	0.0-2.8
45-54	--	--	--	81	1.2	0.0-4.4	109	0.6	0.0-2.2
55-64	--	--	--	67	1.5	0.0-5.0	94	0.8	0.0-2.9
25-64	--	--	--	343	1.1	0.0-2.9	483	0.5	0.0-1.5

PHYSICAL MEASUREMENTS

Table 111 Mean height

Age Group (years)	Mean height (cm)					
	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	617	174.3	173.2-175.3	1153	163.3	162.2-164.4
35-44	315	173.5	173.0-174.0	671	162.4	161.2-163.5
45-54	174	173.9	172.5-175.3	503	161.9	161.0-162.9
55-64	142	171.3	168.8-173.7	340	160.9	159.9-161.8
25-64	1248	173.6	172.7-174.6	2667	162.4	161.4-163.3

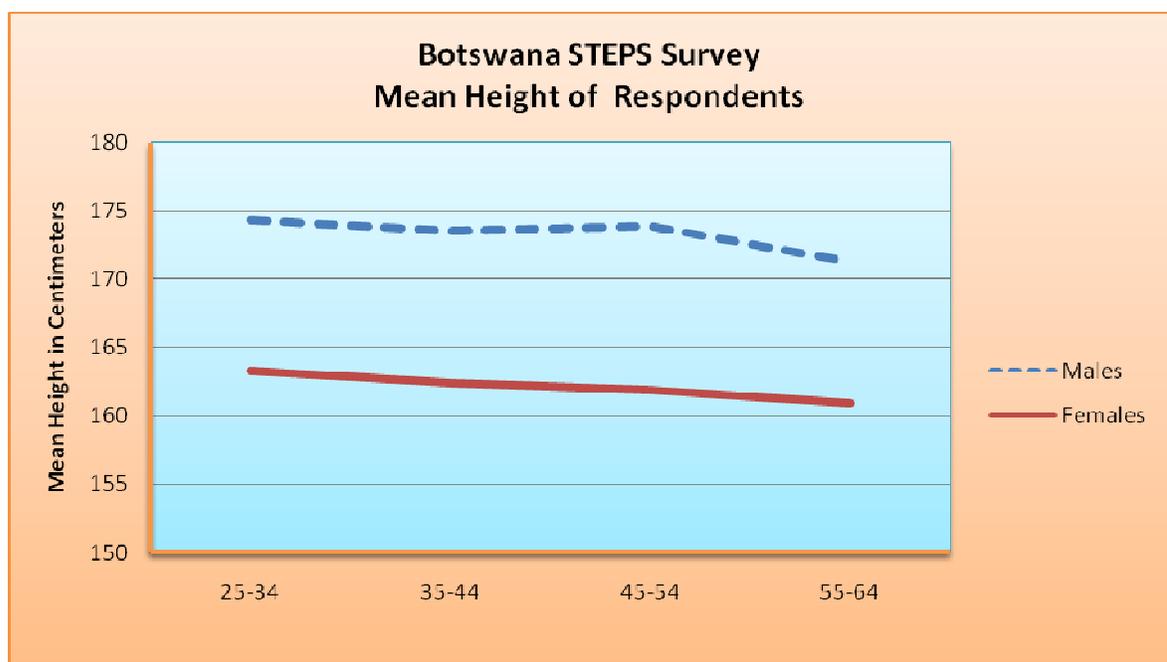


Figure 93 Mean height - STEPS 2007

The mean height of males was higher to that of females by 10 centimeters where as the mean weight of females was higher by 3.2kg from those of male respondents.

Table 112 Mean weight

Age Group (years)	Mean weight (kg)					
	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	623	64.8	61.2-68.3	1093	64.7	62.7-66.8
35-44	320	66.8	60.5-73.0	669	71.0	69.7-72.4
45-54	174	67.3	63.4-71.1	500	71.8	68.9-74.6
55-64	143	64.3	60.0-68.6	344	70.6	67.4-73.8
25-64	1260	65.7	61.8-69.6	2606	68.9	68.1-69.7

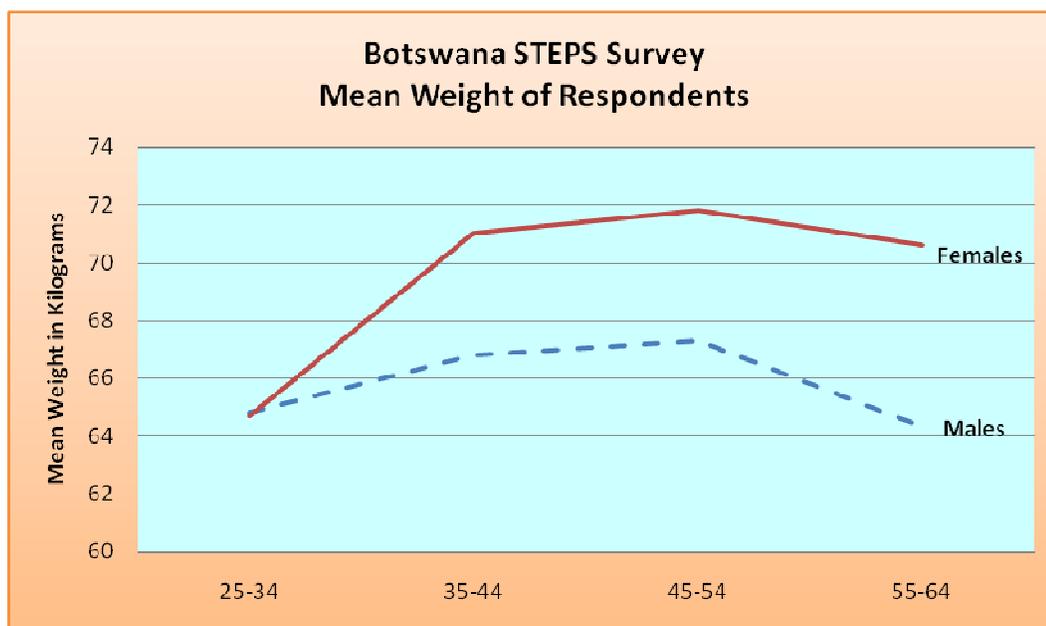


Figure 94 Mean height - STEPS 2007

BODY MASS INDEX (BMI)

BMI is a measure of body weight adjusted for height. BMI is calculated as weight (in kilograms) divided by the square of height (in meters). BMI levels correlate with body fat and also correlate with concurrent health risks, especially cardiovascular risk factors. High BMI predicts future adiposity, as well as future morbidity and death.^{vii}

Table 113 Classification of Body Mass Index

International Classification of Body Mass Index		
1. Severe Thinness	<16.00	
2. Mild Thinness	16.00 - 16.99	
3. Moderate Thinness	17.00 -18.40	
4. Normal	18.50 - 24.99	
5. Pre-Obese	25.00 - 29.99	
6. Obese Class I	30.00 - 34.99	
7. Obese Class II	35.00 - 39.99	
8. Obese Class III	>40	

Table 114 Mean Body Mass Index

Age Group (years)	Mean BMI (kg/m ²)								
	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
25-34	599	21.4	20.4-22.5	1062	24.6	24.1-25.1	1661	22.9	22.3-23.6
35-44	304	22.7	21.4-24.1	650	26.8	26.2-27.5	954	25.0	24.4-25.6
45-54	160	22.9	22.3-23.4	487	27.6	26.4-28.8	647	25.5	24.8-26.2
55-64	136	22.4	20.6-24.2	330	27.4	26.0-28.8	466	25.2	24.0-26.5
25-64	1199	22.2	21.2-23.1	2529	26.3	26.0-26.6	3728	24.3	23.9-24.8

The mean BMI for males was 22kg/m² while that of females was 24kg/m².

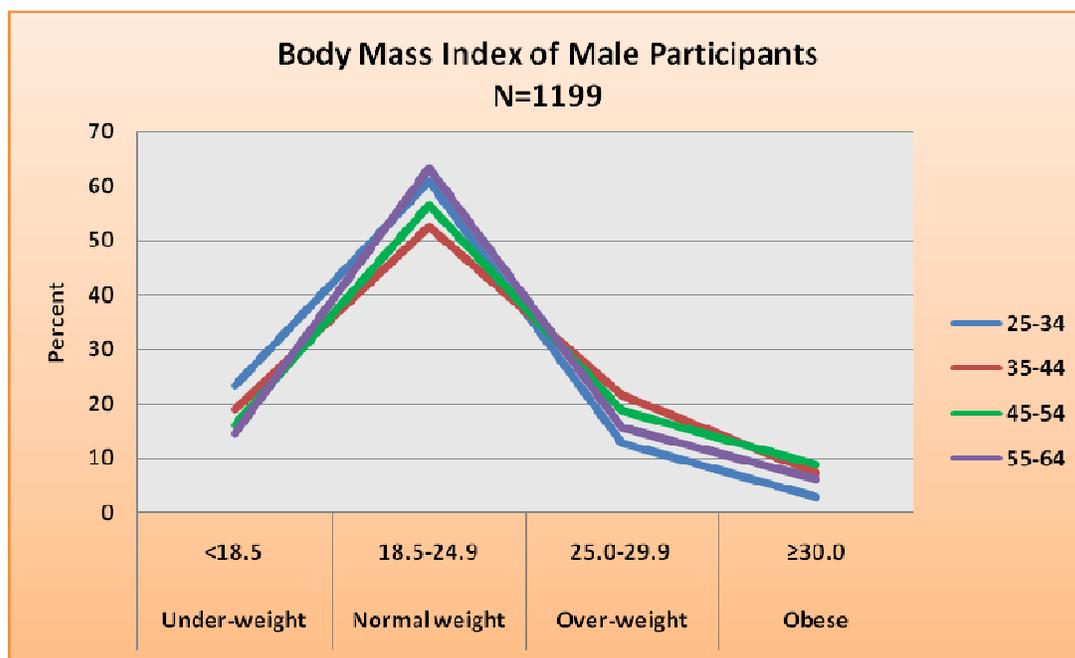


Figure 95 BMI of male participants by age group - STEPS 2007

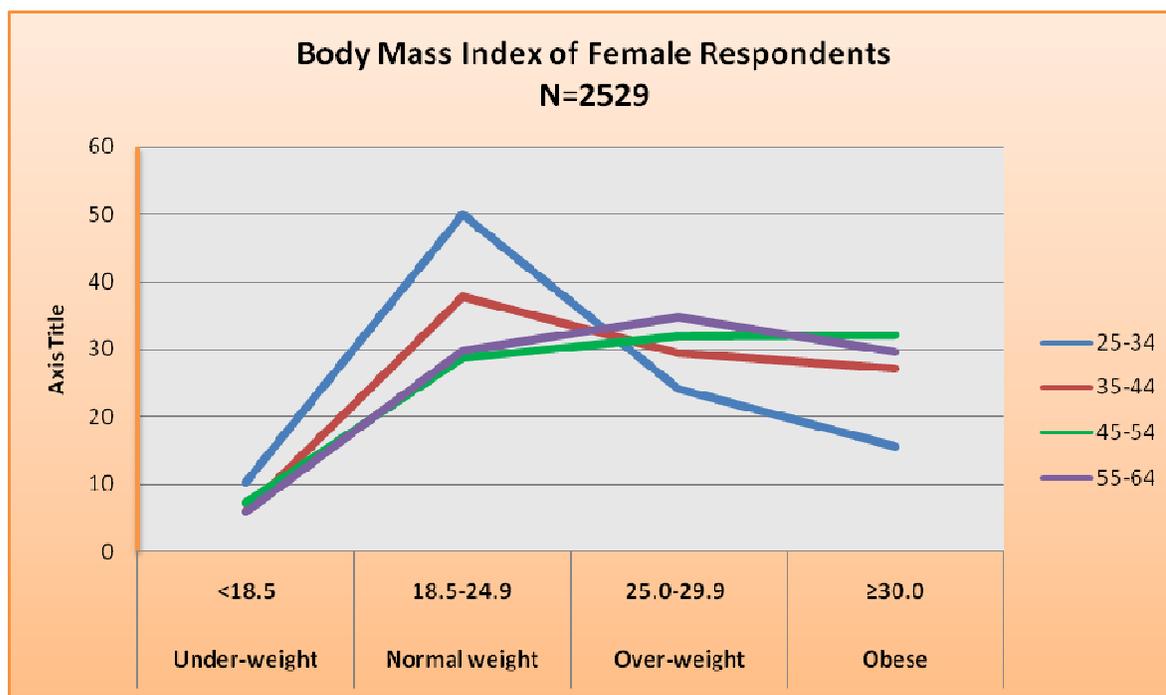
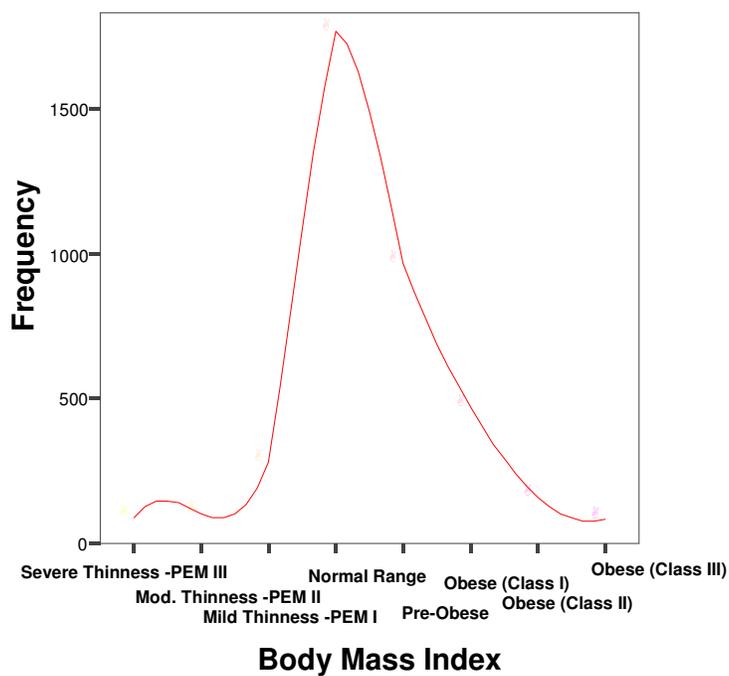


Figure 96 BMI of female participants by age group - STEPS 2007

Botswana STEPS Survey - 2007 Line Graph of BMI



The above graph shows that the majority of the respondents' BMI was within normal range. But one can see as well the two extremes of nutritional status – from severe adult hood malnutrition to overweight and obesity.

BOTSWANA STEPS SURVEY 2007

AREA GRAPH OF BMI

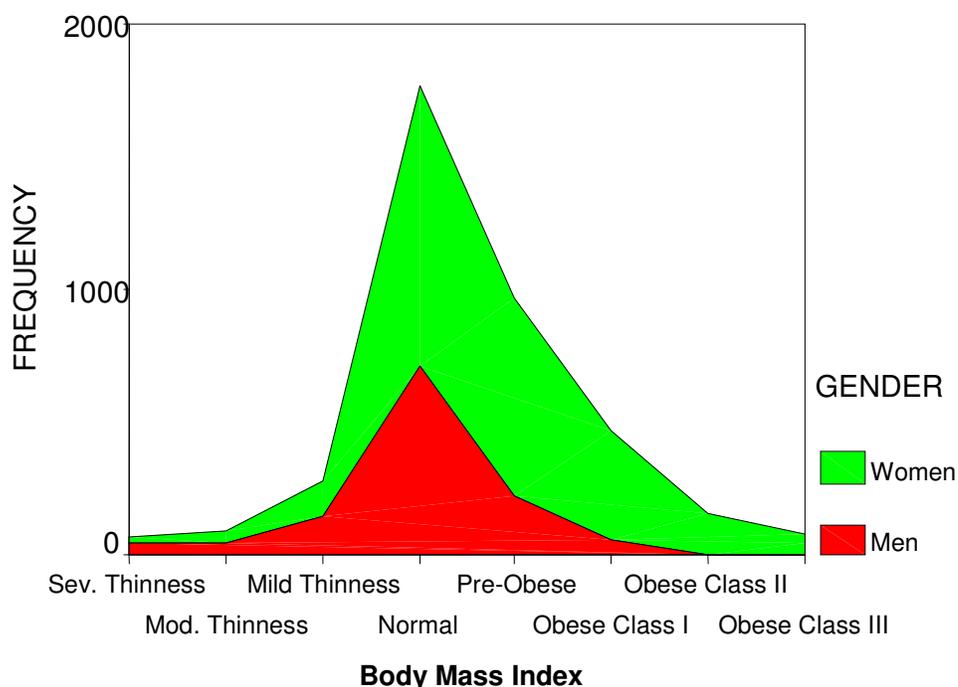


Figure 97 Area graph of BMI - STEPS 2007

The area graph, Fig. 98 shows that females were the highest respondents who manifested in having under nutrition and obesity as compared to males.

Table 115 BMI of males

		BMI classifications							
		Men							
Age Group (years)	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% Over-weight 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
25-34	599	23.3	10.5-36.1	60.9	51.5-70.3	12.9	7.4-18.4	3.0	1.0-5.0
35-44	304	18.9	8.1-29.8	52.5	44.5-60.5	21.4	15.0-27.8	7.2	3.0-11.3
45-54	160	16.1	11.3-20.9	56.5	41.8-71.1	18.7	6.6-30.7	8.8	5.4-12.1
55-64	136	14.6	0.0-33.3	63.3	53.1-73.5	15.7	4.5-27.0	6.3	0.0-12.8
25-64	1199	19.6	11.4-27.8	58.2	54.3-62.2	16.5	10.6-22.5	5.6	3.1-8.2

BMI is a tool to assess the nutritional condition of adults which is computed by taking weight in kilograms per height in metre squared. The BMI of male respondents was: 20% were found to be underweight, 22% overweight while 58% within normal BMI (18.5-24.9kg/m²).

Table 116 BMI of females

Age Group (years)	BMI classifications								
	Women								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% Over-weight 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
25-34	1062	10.3	6.8-13.8	50.0	46.6-53.3	24.1	20.7-27.5	15.6	12.5-18.7
35-44	650	6.0	4.8-7.3	37.7	32.8-42.7	29.3	25.3-33.2	27.0	22.8-31.1
45-54	487	7.3	3.9-10.6	28.8	22.8-34.7	31.9	27.6-36.2	32.1	22.0-42.2
55-64	330	5.9	2.8-9.0	29.8	25.8-33.7	34.7	28.0-41.4	29.6	21.7-37.6
25-64	2529	7.8	5.7-9.9	38.8	35.5-42.0	28.9	27.0-30.7	24.6	22.7-26.4

Females with underweight were 8%, overweight were 53% and 39% of respondents were found to be within normal range.

Table 117 BMI of both sexes

Age Group (years)	BMI classifications								
	Both Sexes								
	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% Over-weight 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
25-34	1661	17.0	9.0-25.0	55.6	50.1-61.1	18.3	14.8-21.8	9.1	7.6-10.6
35-44	954	11.8	8.0-15.5	44.3	38.2-50.5	25.8	23.9-27.7	18.1	14.5-21.8
45-54	647	11.2	8.7-13.8	41.2	32.2-50.2	25.9	20.2-31.7	21.6	16.3-27.0
55-64	466	9.7	0.7-18.6	44.3	38.9-49.7	26.5	22.8-30.1	19.5	12.8-26.2
25-64	3728	13.4	8.7-18.0	48.0	45.0-51.0	23.0	20.9-25.1	15.6	14.0-17.2

Among all respondents it was found that 13% were underweight, 39% overweight and 48% or less than the total population to fall under the normal BMI range.

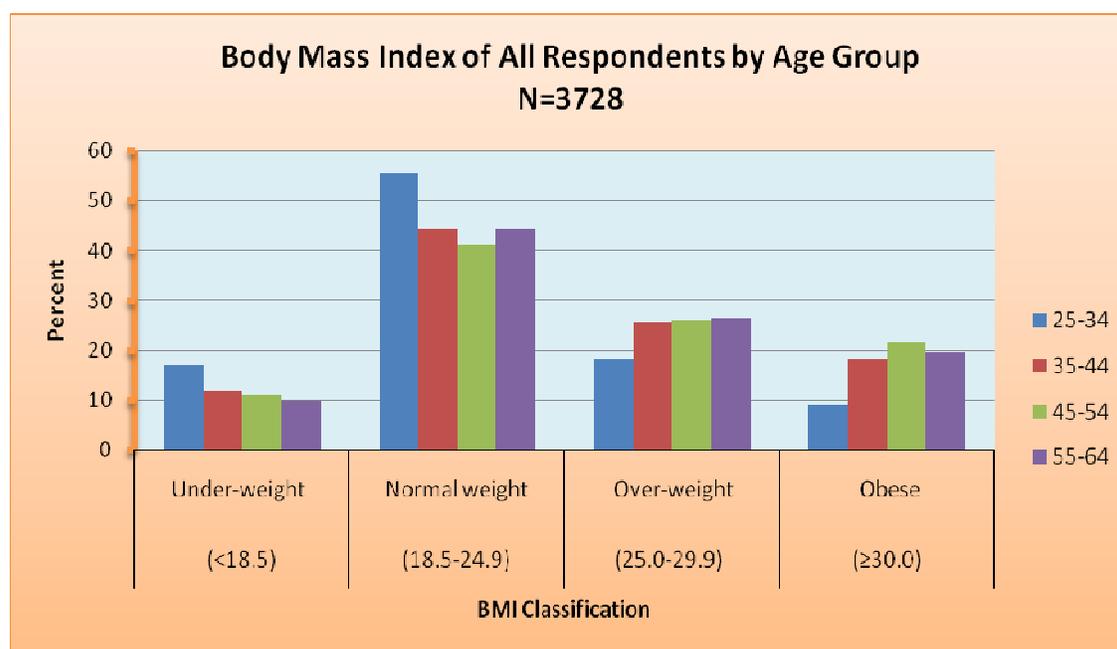


Figure 98 BMI of all respondents - STEPS 2007

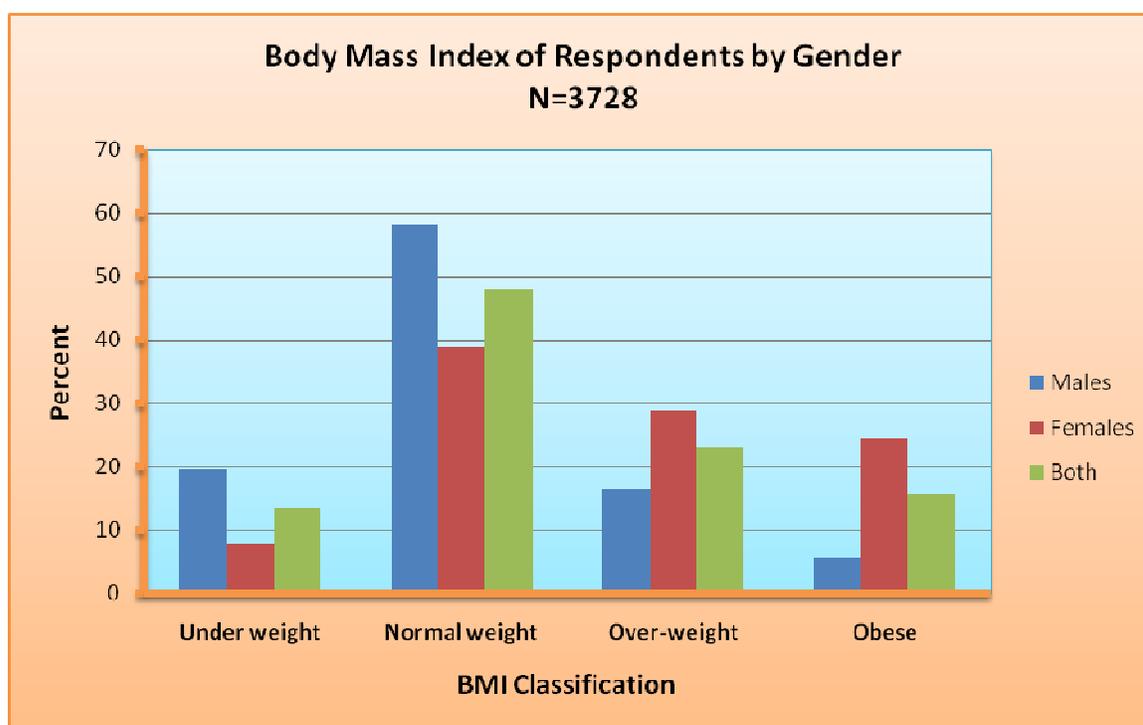


Figure 99 BMI by gender - STEPS 2007

Table 118 Waist circumference

Age Group (years)	Waist circumference (cm)					
	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	598	79.1	76.6-81.5	1078	82.6	81.7-83.5
35-44	306	84.1	80.6-87.6	650	89.2	86.9-91.5
45-54	172	86.1	83.0-89.2	496	93.2	90.9-95.4
55-64	142	84.1	80.2-88.0	336	93.2	91.2-95.1
25-64	1218	82.5	80.6-84.4	2560	88.4	87.3-89.5

Waist circumference was taken from all respondents with the exception of pregnant women. The analysis shows that the mean waist circumference in males was 82.5 cm and in females 88.4 cm. which was higher. The other observation is that the mean waist circumference was seen to increase with age group.

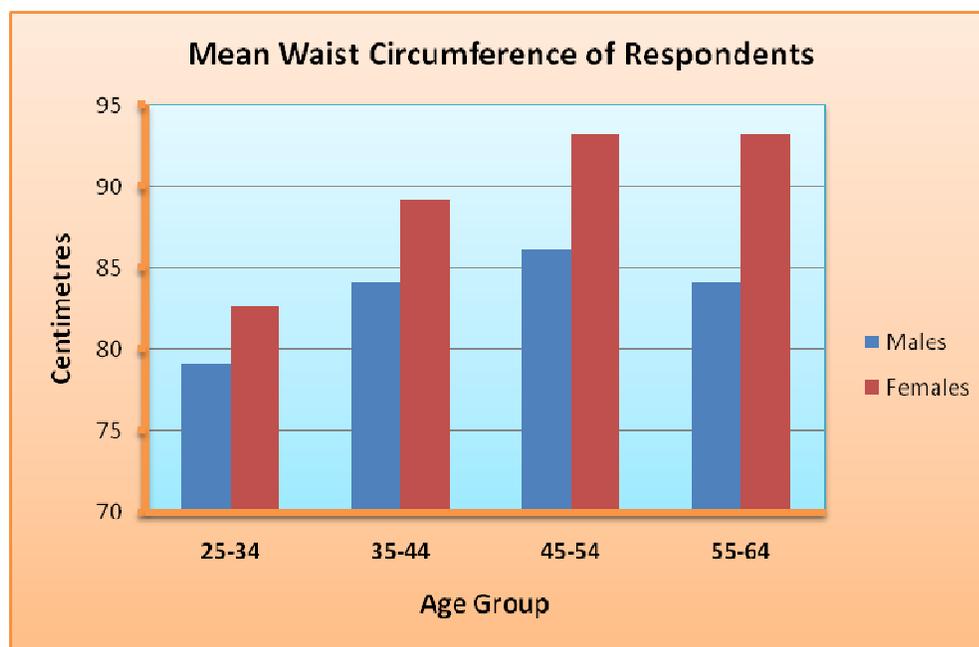


Figure 100 Mean waist circumference - STEPS 2007

Table 119 Hip circumference

Age Group (years)	Hip circumference (cm)					
	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	620	95.0	92.1-97.8	1089	102.5	100.5-104.5
35-44	318	95.9	90.9-100.9	662	105.9	104.0-107.9
45-54	171	97.0	94.5-99.5	495	106.6	102.8-110.4
55-64	144	94.7	90.7-98.6	339	106.3	103.2-109.3
25-64	1253	95.6	92.5-98.7	2585	104.9	103.0-106.8

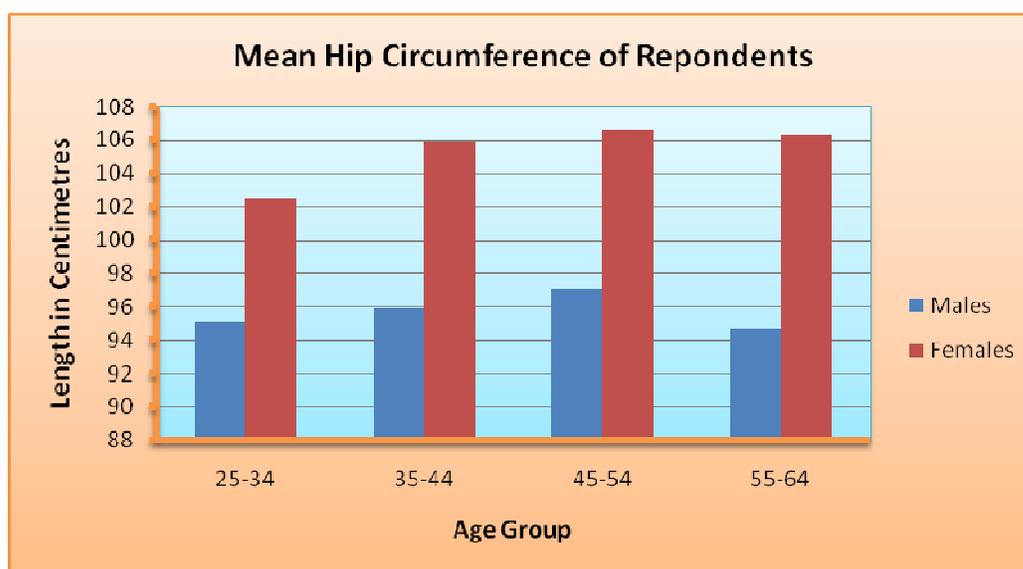


Figure 101 Mean hip circumference - STEPS 2007

Pregnant women were excluded both in waist and hip measurement assessment. The hip circumference of females was higher by 10 cm from those of males. In the bar graph it shows clearly that male hip circumference was constant though out while that of females was increasing with increasing age.

WAIST- HIP Ratio

Waist-Hip Ratio (Waist measurement ^b divided by Hip measurement)	MEN	WOMEN
<0.8	No risk	No risk
0.81 - 1.0	No risk	High risk
>1	Higher risk	Higher risk

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Note:

- Waist measurement taken at the widest part and hip at the narrowest part
- Ratio is expressed in number and has no unit
- A **Waist-Hip Ratio** of less than 1.0 in **men** and less than 0.8 in **women** is an ideal finding in healthy persons.

Table 120 Waist-Hip Ratio

Age Group (years)	Waist-Hip Ratio Mean					
	Men			Women		
	n	Mean	95% CI	n	Mean	95% CI
25-34	593	0.8	0.8-0.8	1072	0.8	0.8-0.8
35-44	305	0.9	0.9-0.9	643	0.8	0.8-0.9
45-54	167	0.9	0.9-0.9	487	0.9	0.9-0.9
55-64	142	0.9	0.9-0.9	333	0.9	0.9-0.9
25-64	1207	0.9	0.8-0.9	2535	0.8	0.8-0.9

The mean waist-hip ratio was the same for male and female respondents.

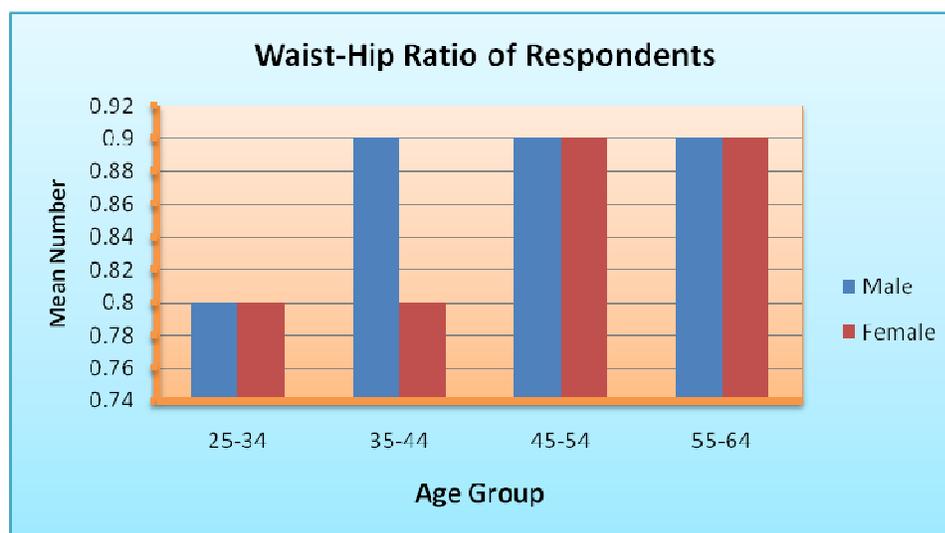


Figure 102 Waist-hip ratio - STEPS 2007

BLOOD PRESSURE AND HEART BEAT

Table 121 Mean systolic BP

Age Group (years)	Mean systolic blood pressure (mmHg)								
	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
25-34	620	126.6	124.9-128.2	1147	119.1	116.1-122.1	1767	122.9	120.9-124.9
35-44	313	128.3	125.8-130.9	631	127.1	125.1-129.0	944	127.6	125.8-129.5
45-54	164	129.8	125.3-134.4	427	137.0	135.1-139.0	591	133.5	131.9-135.1
55-64	127	136.7	124.0-149.5	250	145.1	140.9-149.3	377	140.9	135.1-146.8
25-64	1224	128.9	127.5-130.3	2455	128.1	126.2-129.9	3679	128.5	127.1-129.8

Among all respondents, excluding those who were on medication for raised blood pressure the mean systolic blood pressure, was 129 and for females 126mmHg.

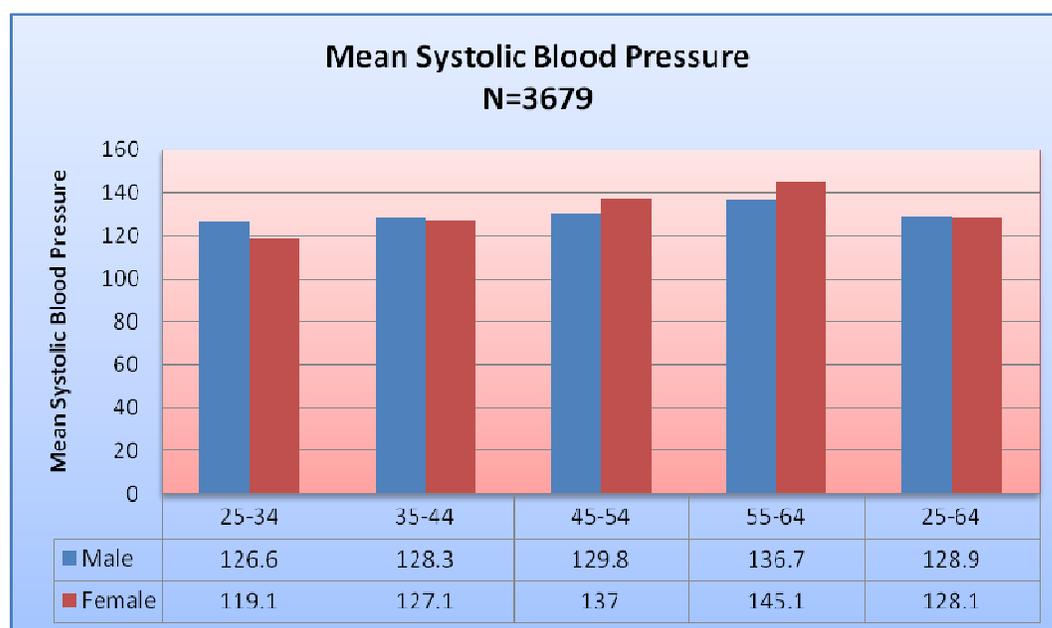


Figure 103 Mean systolic blood pressure - STEPS 2007

Table 122 Mean diastolic BP

Age Group (years)	Mean diastolic blood pressure (mmHg)								
	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
25-34	620	76.5	75.4-77.6	1147	77.9	76.1-79.8	1767	77.2	75.9-78.5
35-44	313	80.3	78.3-82.4	631	82.9	81.0-84.8	944	81.7	80.3-83.1
45-54	164	82.4	81.1-83.7	427	87.4	86.1-88.7	591	84.9	84.2-85.7
55-64	127	83.4	79.7-87.1	250	89.5	85.4-93.5	377	86.5	85.0-87.9
25-64	1224	79.5	78.3-80.7	2455	82.6	81.6-83.7	3679	81.1	79.9-82.3

The mean diastolic blood pressure in females (82.6mmHg) was higher than that of males (79.5mmHg).

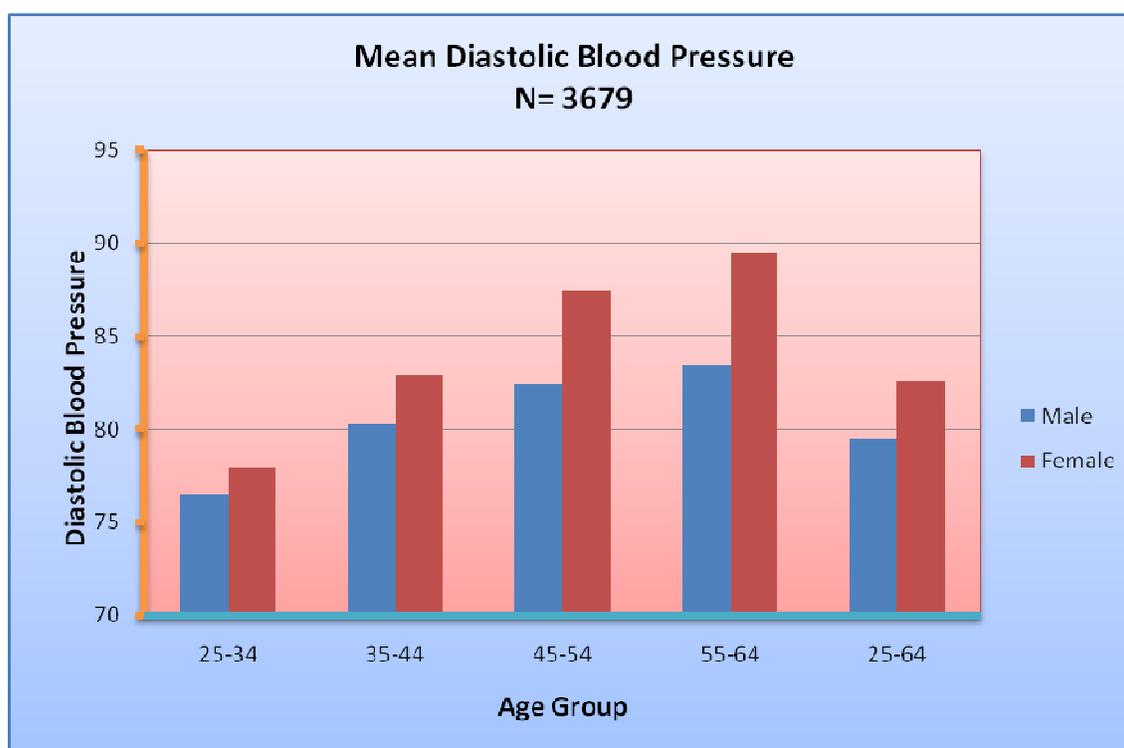


Figure 104 Mean diastolic blood pressure - STEPS 2007

Table 123 SBP and DBP above normal

Age Group (years)	SBP \geq 140 and/or DBP \geq 90 mmHg								
	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	620	17.5	14.8-20.2	1147	14.0	11.3-16.8	1767	15.8	13.6-18.0
35-44	313	25.3	20.0-30.6	631	30.3	21.8-38.8	944	27.9	21.9-34.0
45-54	164	32.5	25.3-39.7	427	46.5	42.4-50.7	591	39.6	37.6-41.6
55-64	127	45.5	25.1-65.9	250	55.9	47.4-64.3	377	50.7	43.0-58.4
25-64	1224	25.9	23.9-27.8	2455	30.2	27.0-33.4	3679	28.0	25.5-30.6

The percentage of respondents, whose blood pressure readings was greater or equal to 140mmHg systolic and 90mmHg diastolic was 26% in males and 30% in females. The linear trend of increased the systolic and diastolic blood pressure corresponded with the increase in age.

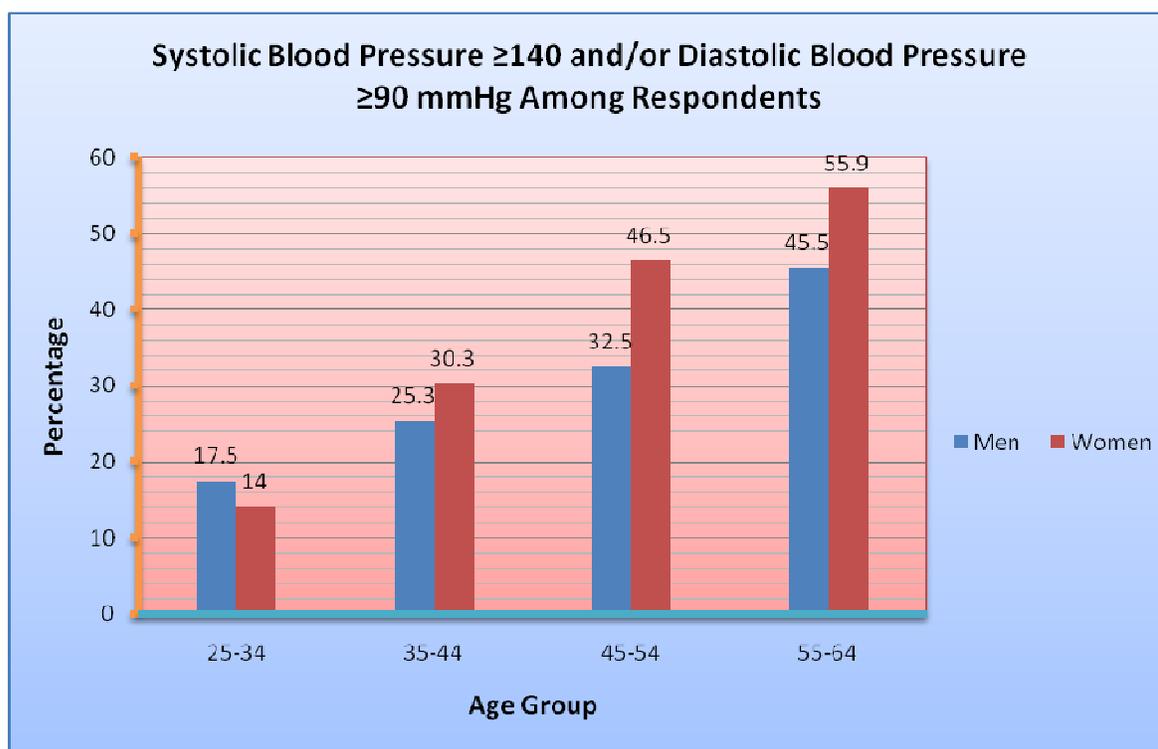


Figure 105 Raised blood pressure - STEPS 2007

Table 124 Raised SBP, DBP and on BP medication

SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	626	18.2	15.3-21.0	1162	15.1	12.3-17.9	1788	16.6	14.3-19.0
35-44	322	27.8	22.2-33.4	675	35.2	28.0-42.3	997	31.8	26.2-37.3
45-54	175	36.9	30.0-43.8	500	54.8	51.3-58.3	675	46.5	43.2-49.8
55-64	142	51.4	29.9-72.8	338	68.2	59.9-76.5	480	60.8	53.9-67.6
25-64	1265	28.8	25.9-31.6	2675	37.0	33.3-40.7	3940	33.1	30.0-36.2

Those respondents whose systolic blood pressure was greater and or equal to 140mmHg and diastolic pressure greater or equal to 90mmHg or currently on medication for raised blood pressure during the past two weeks were 33% (Males 30%, females 37%).

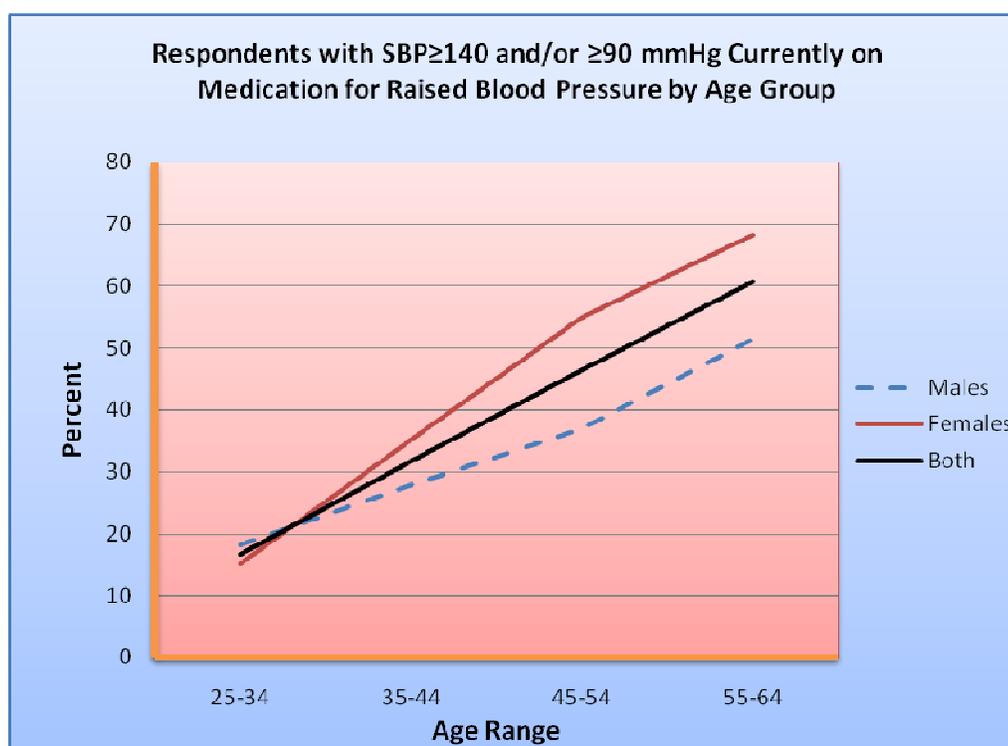


Figure 106 Raised blood pressure on medication - STEPS 2007

Table 125 Currently on BP medication

Age Group (years)	Currently on medication for raised blood pressure								
	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	626	0.8	0.0-1.7	1162	1.2	0.4-2.0	1788	1.0	0.3-1.8
35-44	322	3.3	2.4-4.2	675	7.0	5.2-8.8	997	5.3	3.9-6.7
45-54	175	6.6	4.5-8.7	500	15.5	10.0-21.0	675	11.3	8.5-14.1
55-64	142	10.8	2.3-19.2	338	28.0	22.7-33.3	480	20.4	16.4-24.3
25-64	1265	3.9	2.3-5.6	2675	9.8	6.6-13.1	3940	7.0	5.1-9.0

Total respondents who currently were on medication for raised blood pressure during the past 2 weeks were 7%. The females on medication were higher (10%) to those of males (4%).

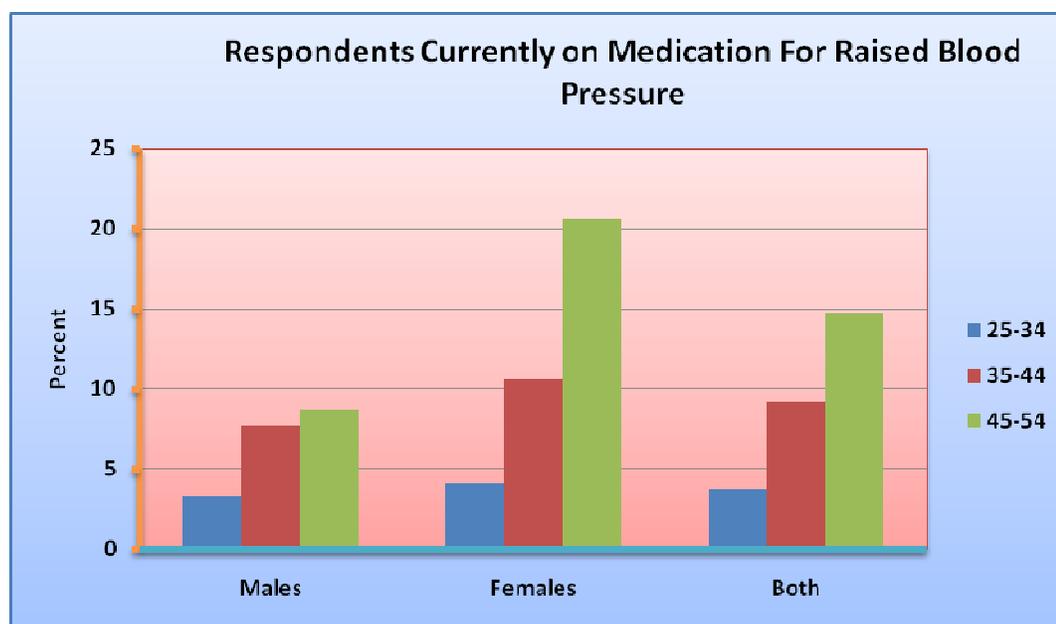


Figure 107 Currently on medication for raised BP - STEPS 2007

Table 126 SBP and or DBP very high

SBP ≥160 and/or DBP ≥ 100 mmHg									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	620	3.3	1.6-5.0	1147	4.1	3.3-5.0	1767	3.7	2.9-4.5
35-44	313	7.7	4.5-10.9	631	10.6	8.6-12.5	944	9.2	7.3-11.2
45-54	164	8.7	6.7-10.7	427	20.6	17.1-24.2	591	14.8	13.0-16.6
55-64	127	18.0	5.0-31.0	250	30.3	20.8-39.9	377	24.2	18.3-30.0
25-64	1224	7.3	5.0-9.5	2455	12.4	10.0-14.9	3679	9.9	8.2-11.5

10% of respondents had systolic blood pressure greater or equal to 160mmHg and diastolic blood pressure of greater or equal to 100mmHg. But the percentage of females in this reading was higher than the males. The magnitude of the problem is seen to increase in both sexes as the age increases.

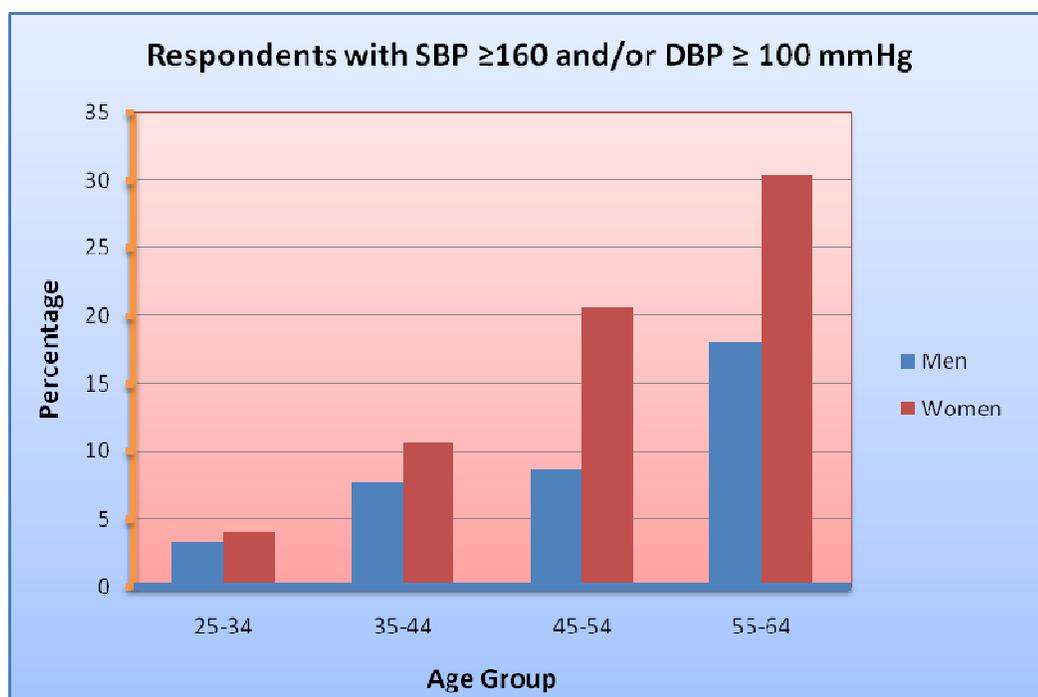


Figure 108 Severe hypertension - STEPS 2007

Table 127 SBP and or DBP very high & on medication

SBP ≥160 and/or DBP ≥ 100 mmHg or currently on medication for raised blood pressure									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	626	4.1	2.4-5.9	1162	5.3	4.4-6.2	1788	4.7	3.9-5.6
35-44	322	10.7	7.3-14.1	675	16.8	16.0-17.6	997	14.0	12.0-16.0
45-54	175	14.7	11.7-17.8	500	32.9	25.8-40.1	675	24.4	20.7-28.1
55-64	142	26.8	9.2-44.4	338	49.8	39.4-60.2	480	39.6	32.9-46.4
25-64	1265	10.9	7.6-14.2	2675	21.0	16.1-25.9	3940	16.2	13.1-19.3

Respondents with the above blood pressure findings who were on medication were 11% males and 21% females, and 16% of the combined population. Raised blood pressure was directly proportional to the increased age group.

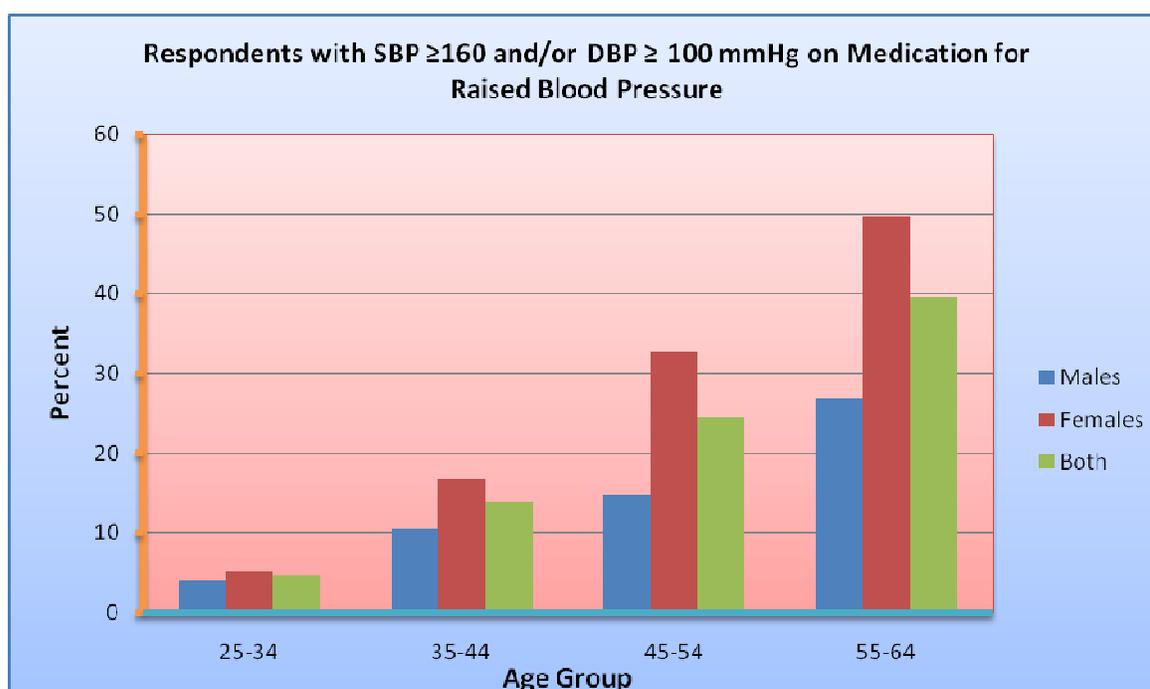


Figure 109 Severe hypertension on medication - STEPS 2007

Table 128 Mean heart beats

Age Group (years)	Mean heart beats per minute								
	Men			Women			Both Sexes		
	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
25-34	624	73.3	70.9-75.8	1160	83.7	81.5-86.0	1784	78.5	76.4-80.5
35-44	322	76.9	74.1-79.8	674	81.8	80.1-83.5	996	79.6	77.6-81.5
45-54	175	77.2	76.3-78.1	498	81.2	79.0-83.4	673	79.3	78.4-80.3
55-64	141	78.3	75.3-81.2	337	79.7	77.8-81.7	478	79.1	76.8-81.4
25-64	1262	75.7	74.1-77.2	2669	82.1	80.6-83.6	3931	79.0	77.5-80.5

The mean hear beat of male (76/min) and female (82/min) respondents and for both was 79beats/minute. It was seen that the percentage of female heart beat reduced when the age increased and that of males their heart beat increased as their age increased. Figure 109

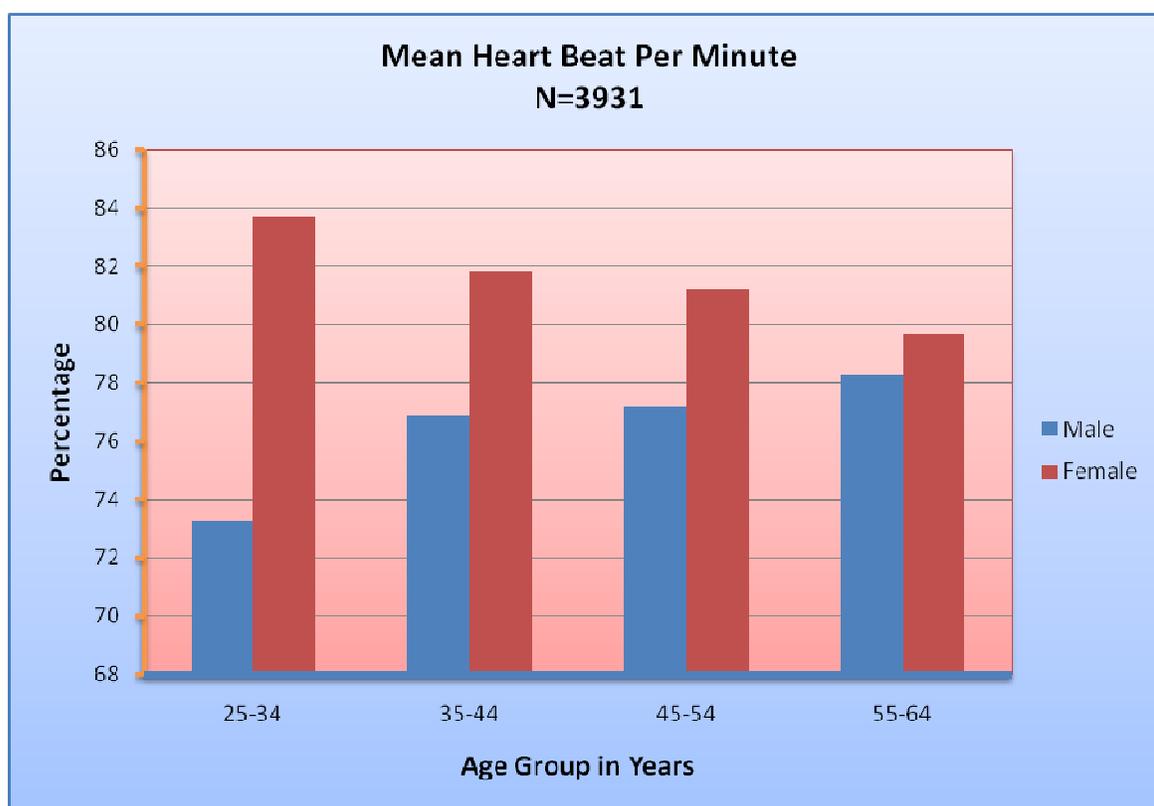


Figure 110 Mean hear beat - STEPS 2007

Table 129 Heart beat over 100

Percentage with heart beats per minute over 100									
Age Group (years)	Men			Women			Both Sexes		
	n	%	95% CI	n	%	95% CI	n	%	95% CI
25-34	624	2.8	1.1-4.6	1160	10.3	7.1-13.5	1784	6.5	4.3-8.7
35-44	322	4.1	0.0-8.4	674	6.6	4.0-9.1	996	5.4	2.6-8.3
45-54	175	5.3	2.2-8.4	498	5.2	3.0-7.3	673	5.2	4.2-6.3
55-64	141	6.2	0.8-11.7	337	7.3	5.3-9.4	478	6.9	4.0-9.7
25-64	1262	4.1	2.1-6.1	2669	7.7	6.3-9.2	3931	6.0	4.4-7.6

6% of all respondents had heart beat over 100/minute.

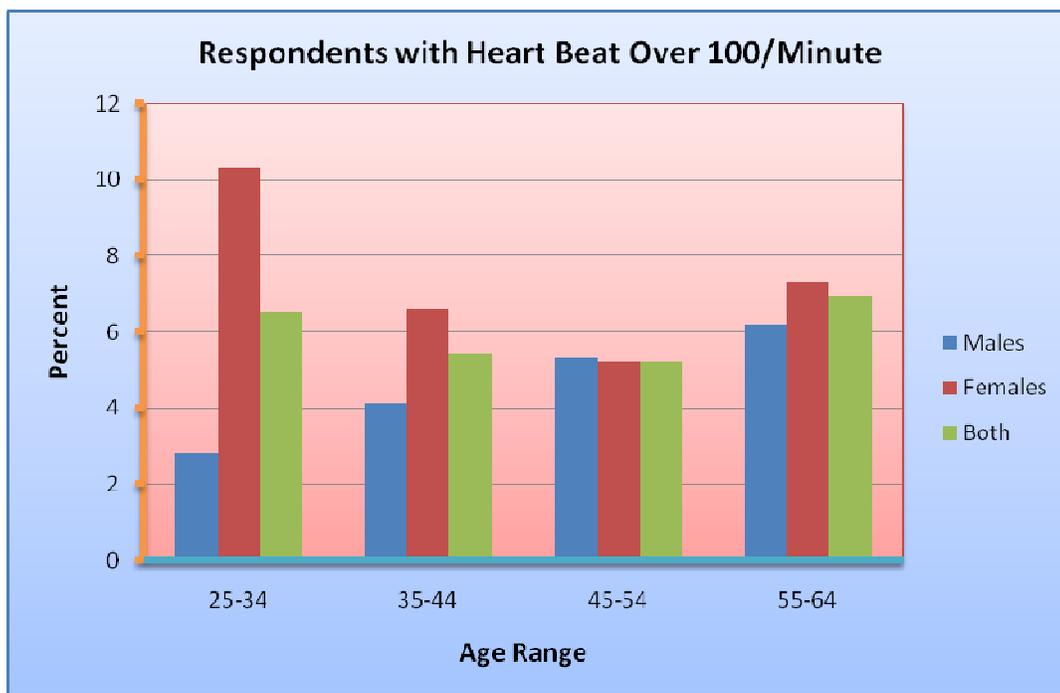


Figure 111 Heart beat over 100 - STEPS 2007

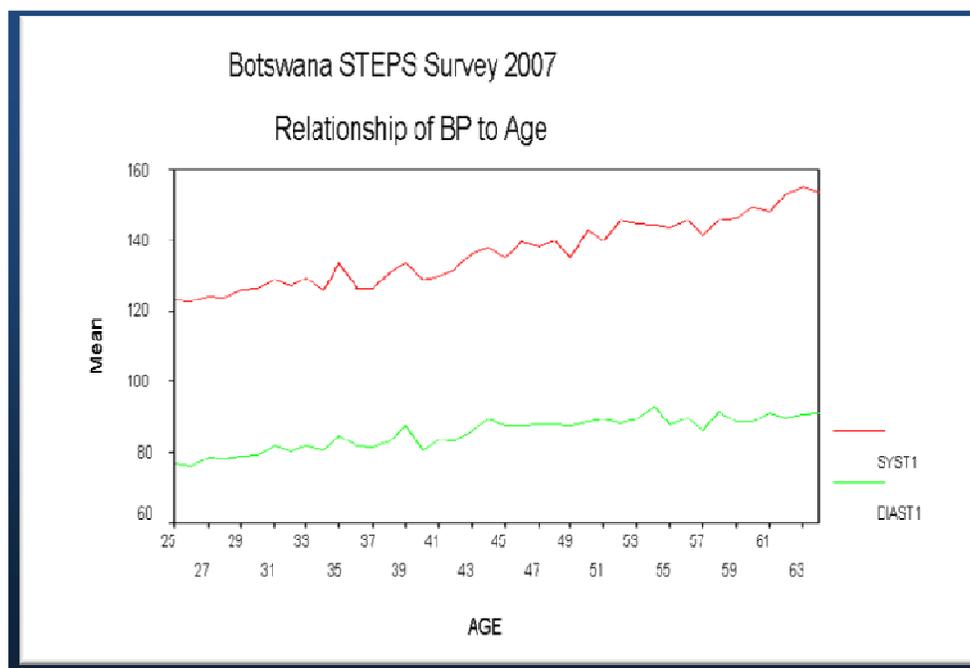


Figure 112 Relationship of Systolic and Diastolic BP with Age - STEPS 2007

The mean systolic and diastolic blood pressure increases with increasing age while pulse remains constant in the respondents of the STEPS survey – Fig. 112 & 113.

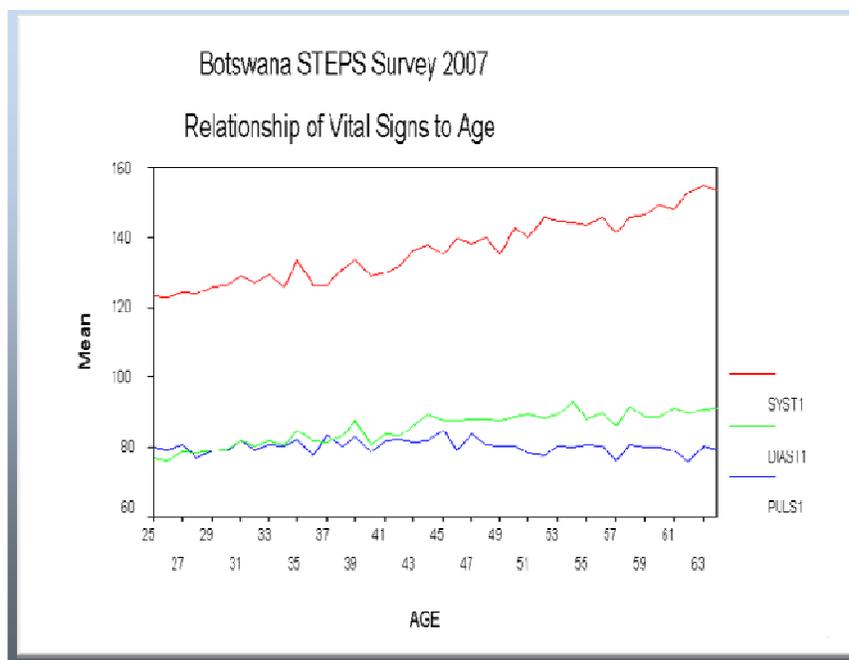


Figure 113 Line graph of vital signs

RAISED RISK

The following were picked from STEP 1 & STEP 2 survey as major risk factors which can contribute to non-communicable diseases. Percentages of respondents were then classified as having 0, 1-2, or 3-5 of these risk factors:

- (i) Current daily smoker
- (ii) Less than 5 servings of fruits & vegetables per day
- (iii) Low level of activity (<600 MET -minutes)
- (iv) Overweight or obese (BMI \geq 25 kg/m²)
- (v) Raised BP (SBP \geq 140 and/or DBP \geq 90 mmHg or currently on medication for raised BP).

Table 130 Percent with risk factors - Males

Raised Risk				
Age Group (years)	Men			
	n	% with 0 risk factors	% with 1-2 risk factors	% with 3-5 risk factors
25-44	661	2.3	79.1	18.6
45-64	209	1.1	63.7	35.2
25-64	870	1.9	74.0	24.1

Table 131 Percent with risk factors - Females

Raised Risk				
Age Group (years)	Women			
	n	% with 0 risk factors	% with 1-2 risk factors	% with 3-5 risk factors
25-44	1340	0.7	67.2	32.0
45-64	610	0.2	38.0	61.8
25-64	1950	0.5	56.3	43.2

Table 132 Percent with risk factors – Both sexes

Raised Risk				
Age Group (years)	Both Sexes			
	n	% with 0 risk factors	% with 1-2 risk factors	% with 3-5 risk factors
25-44	2001	1.5	72.8	25.7
45-64	819	0.6	49.0	50.4
25-64	2820	1.2	64.4	34.5

There was no risk factors identified in 1% of the respondents; where as 64% had 1-2 risk factors and 35% with 3-5 risk factors. The females had greater than 3 risk factors as compared to that of males.

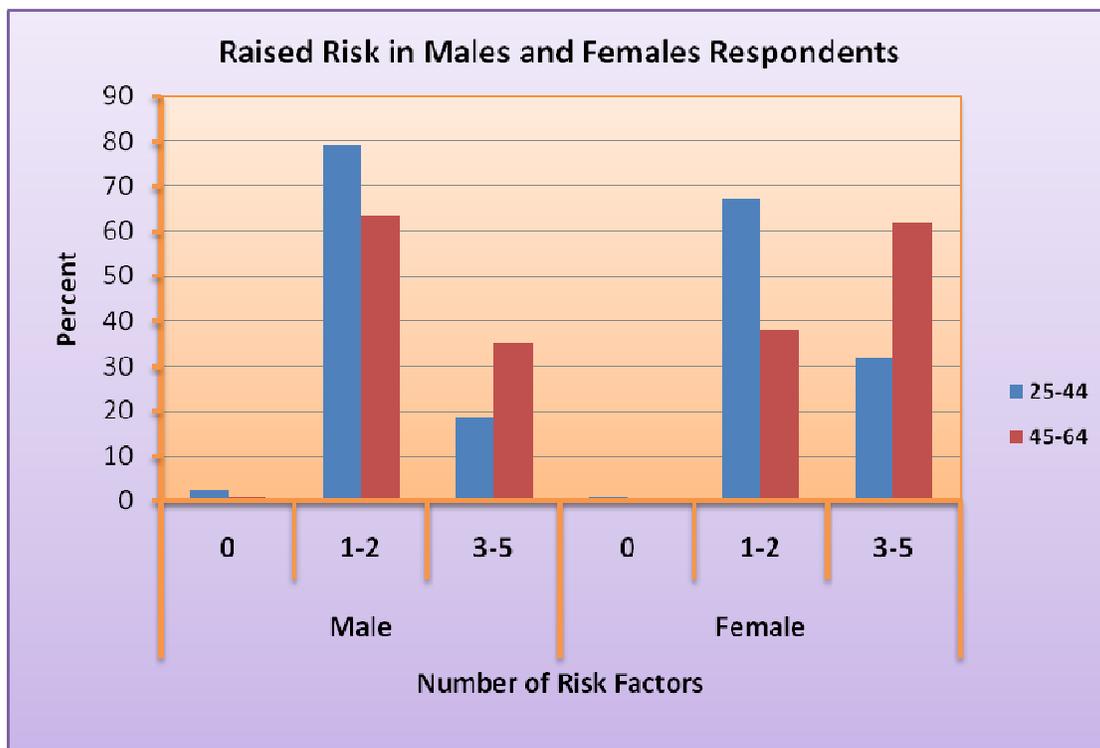


Figure 114 Number of risk factors - STEPS 2007

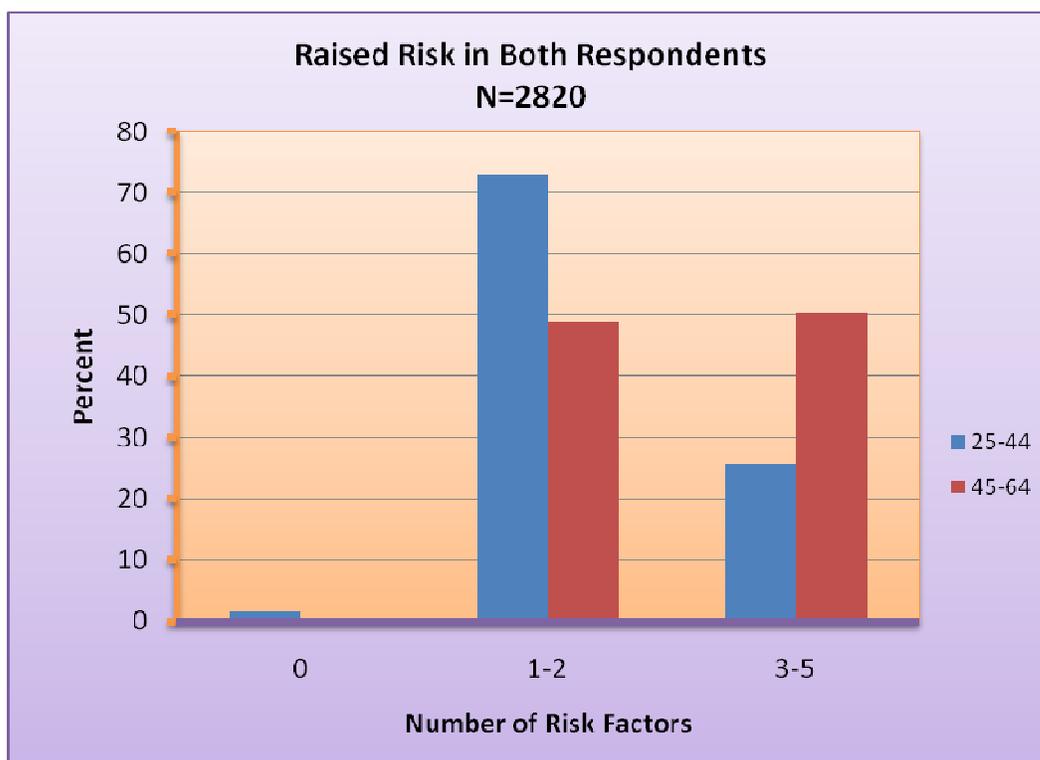


Figure 115 Percent of raised risk - STEPS 2007

DISCUSSIONS

Noting that the conditions in which people live and their lifestyles influence their health and quality of life, and that the most prominent non-communicable diseases are linked to common risk factors, namely tobacco use, alcohol abuse, unhealthy diet, physical inactivity, environmental carcinogens and being aware that these risk factors have economic, social gender, political, behavioural and environmental determinants; one has to develop a mechanism to provide evidence-based information for policy making, advocacy, programme monitoring and evaluation^{viii, ix}

Currently surveillance of NCDs and their risk factors is an essential element in the planning, implementation and evaluation of programmes that contribute to the primary prevention of these diseases. However, one realises that there is lack of data on the majority of the risk factors in most developing countries, and in particular in the African region.

The 53rd meeting of the World Health held in 2000, adopted a resolution on the prevention and control of non transmissible diseases in order to support member states in their efforts to reduce morbidity, mortality and disability and premature mortality costs related to diseases. The main objective of this strategy is to map out the emerging epidemics of non transmissible diseases and to analyze their social, behavioural and political determinants, so as to come up with a guideline on policy, legislation and funding issues^x.

Recently the WHO STEPwise surveillance tool was introduced to collect data on risk factors, hypertension, diabetes, obesity, glucose and cholesterol levels which enables to estimate the level of risks and plan objectively to prevent, and control of non-communicable diseases^{xi}.

The African declaration on non-communicable diseases and injuries recognizes risk factors such as smoking and illicit drugs, food additives and colourants, consumption of refined foods, excessive alcohol consumption, road traffic accidents, obesity, sedentary habits, not consuming fruits and vegetables. It recommends that member states come up with national policies to address the risk factors through an integrated approach - promotion of healthy lifestyle, all health programmes to include preventive element, risk reduction, fighting obesity, health promotion (IEC), legislation, popularize physical exercise, encouraging gardens, basic screening tests.^{xii}

To enhance employees' productivity and cut medical care costs, management need to invest in Work Place Health Promotion – awareness in risk factors and their prevention, reduction of individual health behavior, stress/anxiety, address diet and physical activity in workplace. Unhealthy diet and physical inactivity are the two main risk factors initiating raised blood pressure, raised glucose, abnormal blood lipids, overweight/obesity that ends in developing chronic diseases^{xiii, xiv, xv}.

Most of the diseases have similar risk factors which are associated with lifestyle and behaviour of individuals such as smoking, alcohol consumption, excessive salt intake, physical inactivity, obesity, etc. and exposure to environmental factors The effect of these risk factors can be reduced or eliminated through adoption of healthy lifestyles and control of the environment.

The IEC strategy recognizes the need for the health worker themselves to be adequately informed on the diagnosis and management of NCDs. They need to be upgraded on the available current information about surveillance, prevention and control of NCDs. It is also important to hold advocacy meetings with policy makers and other stakeholders in the health sector with a view to promoting appropriate legislation to reduce environmental exposure and restriction on alcohol and tobacco use.

Information, education and communication (IEC) provides the nearest solution by creating individuals' and public awareness. Attitudes and behaviours can be changed or improved to reduce morbidity and mortality related conditions to non-communicable diseases. Most importantly it is cost-effective and easy to integrate with existing health services.

RECOMMENDATIONS

As 60% of all deaths and 47% of the global burden of diseases is attributed to the major non communicable diseases it could be averted with the following recommendations:

1. Since non-communicable diseases have their origin from childhood one has to promote proper infant and young child feeding, educate family members and especially mothers how to properly feed their children.
2. Education, communication and public awareness on NCDs- the public, schools, workplace, institutions
3. Community sensitisation and mobilisation prior to any survey
4. Production of reading materials on major risk factors identified for non-communicable diseases
5. Establish National Guide Line in the management of major chronic diseases
6. Screening services for major NCDs at all levels of health facilities
7. Involve all stakeholders and the community in the prevention and control activities
8. Partnership building and joint venture as was done between MoH and MLG with other sectors Ministry of Youth, Sport and Culture, Ministry of Communication, Science and Technology to create awareness of the public, empower communities with established structures.
9. Facilitate and support infrastructure for physical activity – at schools, community, and workplace
10. Adopt policies that support healthy diets at primary, secondary schools, tertiary education
11. Capacity building – trained manpower to handle primary and secondary prevention of non-communicable/chronic diseases,
12. Organise a coordinating team to see all aspects of NCDs.
13. Involve national and international partners to draft policy guideline
14. Policy on lifestyle measures – Behavioural change - weight reduction, alcohol, tobacco, physical activity, balanced diet,
15. Rules and regulations on importation of food items, food preparations in eating establishments
16. Develop a tool for surveillance of NCDs and their risk factors
17. Surveillance and follow up of all non-communicable diseases, establishment of data base at district level (DHT)
18. Basic training in Epi-Info should be given to district programme officers of the DHT to so as to enable them analyze their data
19. Chronic Disease Risk Surveillance should be conducted periodically in all the districts by respective DHTs
20. Regular monitoring of risk factors
21. Resource allocation
22. Geriatric health services
23. Reduce the level of exposure to the major risks of unhealthy diet smoking and physical inactivity
24. Proper city planning – pedestrian lane, bicycling for the public to intensify physical exercise.

25. Adult malnutrition and overweight is found to be present which need to be tackled through
 - a. Food security
 - b. Poverty alleviation
 - c. Promote traditional foods
 - d. Promote physical activity – in schools, workplace, communities, physical activity during leisure
26. Research activity on behavioural risk factors and associated diseases
27. Adequate training before embarking a survey
28. Availability of appropriate and adequate equipment for a survey and health care institutions
29. Appropriate medical care and follow up of people with already established diseases to prevent disability and mortality
30. Non-communicable diseases are seen in younger age groups and thus surveillance should include all ages 15 and above to know the magnitude of the problem.
31. Men at younger age group and women at middle and elder age group are seen with high percentage of smoking. Age and gender targeted education should be intensified in the country.
32. Consumption of fruits and vegetables prevent large arrays of non-communicable diseases. Our finding is that the mean number of days fruits and vegetables consumed by respondents was just 1 day in a week and 60% of the people do not even had one, only 3% of the population had 5 or more servings. To reduce the consequent risk of acquiring non-communicable diseases, people have to be encouraged to eat more fruits and vegetables and at the same time advised to intensify developing their own gardens.

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