

Lebanon STEPS report

Nationwide noncommunicable diseases risk factors assessment using the World Health Organization's Stepwise approach in Lebanon



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Abbreviations and acronyms

BMI	Body Mass Index
CI	Confidence Interval
CRD	Connecting Research to Development
CVD	Cardiovascular Disease
DBP	Diastolic Blood Pressure
EMR	Eastern Mediterranean Region
HbA1c	Glycated Haemoglobin
HDL	High-Density Lipoprotein
HTP	Heated Tobacco Product
IQR	Interquartile Range
LDL	Low-Density Lipoprotein
MoPH	Ministry of Public Health
NCD	Noncommunicable Diseases
PHC	Primary Health Care
PSU	Primary Sampling Unit
SBP	Systolic Blood Pressure
STEPS	STEPwise Approach to NCD Risk Factors Surveillance
UHC	Universal Health Coverage
UNHCR	United Nations High Commissioner for Refugees
WHO	World Health Organization

Foreword

Noncommunicable diseases remain a leading cause of morbidity and mortality in Lebanon, placing increasing pressure on a health system already strained by economic instability, political challenges, and the continued impact of overlapping emergencies. Addressing this burden requires reliable, nationally representative data to guide policies, strengthen prevention efforts, and support equitable access to essential health services.

The Ministry of Public Health, in collaboration with the World Health Organization, implemented the 2024 STEPwise Approach to NCD Risk Factor Surveillance (STEPS). This survey provides updated evidence on key behavioural, physical, and biochemical risk factors for NCD among adults residing in Lebanon. The data generated through STEPS are critical for monitoring national progress, assessing the impact of current policies, and informing future strategies, particularly as Lebanon advances its efforts toward Universal Health Coverage.

The findings of this survey underscore the importance of scaling up comprehensive NCD prevention and control interventions. They serve to inform policy development, strengthen multisectoral advocacy, and support resource mobilization. The insights from STEPS will further contribute to ongoing efforts to reinforce primary health care, strengthen the health system, and promote healthier environments for all people living in Lebanon.

I would like to sincerely acknowledge the valuable contributions of all stakeholders and partners who made this national exercise possible. In particular, I extend my appreciation to the MoPH staff for their dedication, to WHO Country Office team for their technical leadership and support.

The Ministry of Public Health, together with its partners, remains firmly committed to translating this evidence into tangible action to protect the health of all people living in Lebanon and to advance a healthier future for our nation.

Dr. Rakan Nassereldine

Minister of Public Health

Lebanon

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Executive summary

Introduction

The 2024 Lebanon STEPS survey provides an updated, nationally representative assessment of noncommunicable disease (NCD) risk factors during a period of severe economic and social instability.

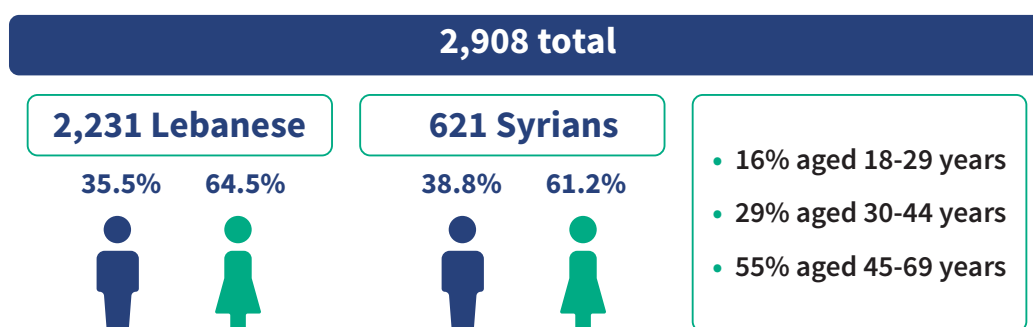
NCDs, including cardiovascular diseases, diabetes, cancer, and chronic respiratory diseases, remain the leading cause of mortality in Lebanon, accounting for 91% of deaths in 2018. The high prevalence of risk factors and chronic conditions such as tobacco use, raised blood sugar, elevated blood pressure, obesity, and unhealthy lifestyles continues to drive this burden and to place additional pressure on an already strained health care system. Lebanon's last national STEPS survey was conducted in 2017, making updated data essential given the rapid changes in population health and living conditions.

Methodology

Conducted between November 2023 and February 2024, the survey follows the WHO STEPwise approach and includes both Lebanese and Syrian residents across all governorates. The STEPS instrument was adapted to the Lebanese context. Data were cleaned and weighted to provide prevalence estimates at the population level. Data collection was conducted electronically using tablets and included three components: Step 1 (behavioural risk factors), Step 2 (physical measurements), and Step 3 (biochemical assessments).

Key results

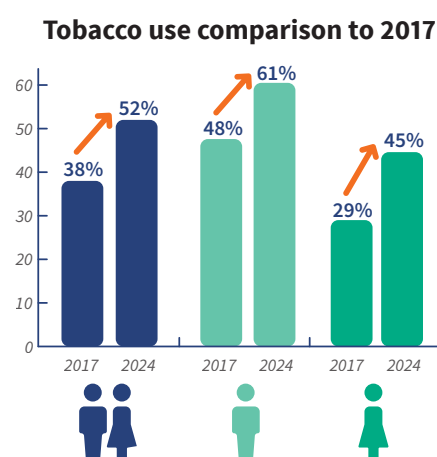
A total of 2,908 adults aged 18–69 years participated in the survey, including 76.7% Lebanese, 21.4% Syrians, and 1.9% of other nationalities. The mean age of participants was 40.3 years.



More than half of adults carried three to five risk factors (58.7% of males and 54.6% of females), rising to over 70% in adults aged 45–69 years.

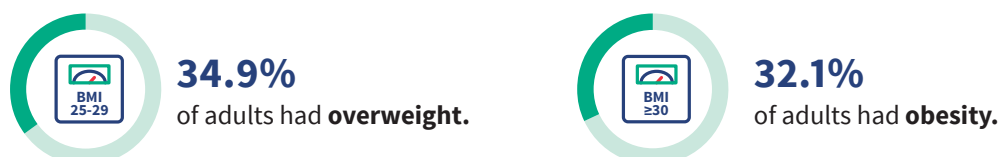
Tobacco use is widespread and rising sharply. Over half of adults (52.1%) were current smokers, with higher rates among males (60.5%) than females (44.6%). Among smokers, 60.7% used manufactured cigarettes and 43.6% smoke arguileh, with arguileh use notably higher among females (53.7%), reaching 77% of young females aged 18–29 years. Half of smokers (50.5%) reported using two or more tobacco products, reflecting increased poly-tobacco consumption.

Alcohol consumption was reported by 13.6% of adults. Heavy episodic drinking remains concentrated among young males aged 18–44 years (8.4%), indicating a risk pattern more prominent among younger male drinkers.



Fruit and vegetable consumption remained critically low, averaging only 2.5 servings/day, down from 3.6 in 2017, with 90.5% of adults failing to meet WHO's ≥ 5 servings/day recommendation. Salt-related behaviours have worsened, with 36.0% frequently adding salt at the table (up from 23.1%) and 43.4% regularly consuming high-salt processed foods (up from 20.7%). Average salt intake has reached 9.0 g/day, nearly double WHO's recommended limit. In terms of physical activity, 35.6% of adults do not meet WHO minimum activity targets and 76.4% do not engage in vigorous activity, with inactivity disproportionately affecting females (43.8% vs 26.1% of males).

Overall, 67.0% of adults were categorized as having overweight or obesity (BMI ≥ 25).



Abdominal obesity was highly prevalent, with 77.7% of females having waist circumference ≥ 80 cm and 59.9% of males ≥ 94 cm, highlighting significant cardiometabolic risk.

In terms of blood pressure and blood glucose:



The mean fasting blood glucose among a sub-sample of 2,500 participants was 104.1 mg/dL (5.8 mmol/L). In addition, 26.42% of adults met the criteria for impaired fasting glycaemia (cut-off: 100-125 mg/dL).

Biochemical lipid profile showed that 32.4% of adults had raised total cholesterol (≥ 190 mg/dL or on treatment), 15.0% presented raised LDL (≥ 130 mg/dL) and 5.6% had LDL levels ≥ 160 mg/dL. Around 28.2% had raised triglycerides (≥ 150 mg/dL), and nearly one in five exceeding 180 mg/dL.

Almost 28.2% of the population aged 40–69 years had a 10-year cardiovascular disease (CVD) risk $\geq 20\%$, or had an existing CVD.

Regarding mental health, 25.8% of adults screened positive for depression over the past 12 months. In addition, 2.7% seriously considered attempting suicide, 2.8% reported ever attempting suicide, and 25% sought professional help for suicide ideation or attempt. Only 18.8% received treatment.

Conclusion

Overall, the findings point to raised blood glucose as the most rapidly increasing metabolic condition, elevated blood pressure as the most pervasive cardiovascular risk factor, and cardiovascular disease as a potential outcome, increasing in response to long-standing gaps in prevention, detection, and control. These findings underscore the urgency of scaling up comprehensive NCD prevention and control efforts. Priority actions include strengthening tobacco policies and control, promoting healthier diets and physical activity, reducing salt intake, and improving early detection and management of chronic conditions including mental health conditions. Continued surveillance for NCDs including mental health and suicide must be monitored and improved.

1. Introduction

1.1. Noncommunicable diseases

Noncommunicable diseases (NCDs), including cardiovascular diseases (CVDs), diabetes, chronic respiratory diseases, and cancer, are the leading causes of mortality globally and are responsible for 74% of deaths worldwide.² Unless action is taken, NCD deaths are projected to reach 52 million by 2030.³ Even though the burden is universal, low- and middle-income countries are most seriously affected, with over three-quarters of all NCD deaths occurring in these countries.⁴ The burden of NCDs continues to account for the greatest proportion of the nationwide health expenditures in most developing countries, including Lebanon.⁵ The burden of NCDs influences the communities' health status and quality of life and overstretches the health system structure, capacity, and expenditure.

1.2. NCD risk factors

Several preventable risk factors that underlie most NCDs include raised blood pressure, tobacco use, alcohol use, unhealthy diet, insufficient physical activity, overweight/obesity, raised blood glucose, and raised blood cholesterol.⁶ Obesity has been increasing among the adult Lebanese population from 17.4% in 1997 to 28.2% in 2009.⁷ In 2017, 31.3% of adults in Lebanon had obesity with a Body Mass Index (BMI) greater than 30 kg/m².⁸ In addition, the prevalence of insufficient physical activity among adults aged 18+ years in Lebanon in 2018 was 54.6%.⁹ On the other hand, smoking has been increasing and reached one of the highest levels in the Arab world.¹⁰ Combined, these behavioural and metabolic patterns contribute to a growing burden of diabetes. There is a strong association between diabetes mellitus and CVDs. Studies show that individuals with increased glycated haemoglobin (HbA1c), a key marker of poor glycaemic control, are at a higher risk of developing CVDs, putting them at a greater risk of mortality and morbidity.¹¹ Lastly, mental health and NCDs are closely interconnected. Health can negatively influence desirable self-management behaviours and living with a noncommunicable disease impacts mental health, leading to symptoms such as depression.¹²

1.3. NCDs situation in Lebanon

Lebanon is a lower-middle income country in the Eastern Mediterranean Region with an estimated population of over 5.6 million. It is hosting the largest number of refugees per capita in the world, with the

² WHO, Noncommunicable diseases, 2021. <https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases>

³ World Health Organization. Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2015.

⁴ Ibid

⁵ Zabliith, N., Diaconu, K., Naja, F. et al. Dynamics of non-communicable disease prevention, diagnosis and control in Lebanon, a fragile setting. *Confl Health* 15, 4 (2021). <https://doi.org/10.1186/s13031-020-00337-2>

⁶ GBD 2015 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioral, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*. 2016;388:1659–724

⁷ Nasreddine, L., et al., Trends in overweight and obesity in Lebanon: evidence from two national cross-sectional surveys (1997 and 2009). *BMC public health*, 2012. 12(1): p. 798.

⁸ WHO, The Global Health Observatory, 2017. [https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-30-\(crude-estimate\)-\(-\)](https://www.who.int/data/gho/data/indicators/indicator-details/GHO/prevalence-of-obesity-among-adults-bmi-30-(crude-estimate)-(-))

⁹ GBD 2015 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*. 2016;388:1659–724.

¹⁰ Maziak, W., et al., Tobacco in the Arab world: old and new epidemics amidst policy paralysis. *Health policy and planning*, 2013. 29(6): p. 784–794.

¹¹ Nouredine, H., Nakhoul, N., Galal, A., Soubra, L., & Saleh, M. (2014). Level of A1C control and its predictors among Lebanese type 2 diabetic patients. *Therapeutic advances in endocrinology and metabolism*, 5(3), 43–52.

¹² NCD Alliance. (September 10, 2018). Suicide; devastating, common and preventable. Suicide; devastating, common and preventable | NCD Alliance

government estimation of 1.5 million Syrian refugees and some 13,715 refugees of other nationalities,¹³ in addition to the Palestinian refugees. The burden of NCDs remains the largest in Lebanon, accounting for 91% of all deaths in the country, with CVDs being the main cause of death (47%), followed by cancers (16%) and diabetes (5%).^{14,15}

Lebanon continues to face an unprecedented combination of crises. Since 2019, the country has faced an economic collapse, rapid currency devaluation, and increases in poverty, where 82% of the population reported living in multidimensional poverty, and 40% in extreme deprivation.¹⁶ These challenges were compounded by the COVID-19 pandemic, the Beirut Port explosion, a cholera outbreak, and, more recently, widespread hostilities in 2024 that displaced more than 1 million people and caused significant damage to health facilities. These overlapping emergencies have disrupted essential health services, reduced access to chronic disease care, and led to deterioration of population health indicators. Additionally, the country relies mainly on importation and suffers a growing shortage of essential medications and medical supplies.¹⁷ This shortage was further exacerbated by the destruction of the essential drugs and medical resources stored in the damaged health care facilities and the Ministry of Public Health (MoPH)'s Central Drug Warehouse during the Beirut port explosion.¹⁸ The progressive attrition of highly skilled and specialized health care workers also created a shortage in human health resources, threatening the quality and continuity of health care delivery.¹⁹ The MoPH recently reported a 6% rise in the number of patients' visits per year to primary health care (PHC) centres and a 5.7% surge in the total number of patients, reflecting the high demand for public health services.²⁰

Individuals living with NCDs in Lebanon are particularly vulnerable during emergencies.²¹ NCDs require multidimensional care across a long period of time, making individuals living with NCDs dependent on regular access to medications, medical supplies, and essential health services.²² However, chronic medication shortages, such as cardiovascular and cancer medications have been documented in Lebanon.²³ Individuals living with NCDs faced a rise in the cost of complementary tests, consultations, and hospitalizations.²⁴ Overlapping crises have further disrupted the prevention and management of NCDs potentially resulting in lack of access to timely treatment, delayed diagnosis of NCDs, increase in NCD-related complications, increase in costs of managing health complications, and reduction in quality of life and life expectancy.²⁵

1.4. WHO STEPwise approach to surveillance

In 2002, WHO developed the STEPwise approach to NCD Risk Factors Surveillance (STEPS), a standardized framework designed to support countries in collecting, analyzing, and disseminating comparable data on major NCD risk factors. It aims to generate indicators that allow countries to monitor trends, assess

¹³ UNHCR, UNHCR Lebanon at a glance. <https://www.unhcr.org/lb/at-a-glance>

¹⁴ WHO. Noncommunicable diseases progress monitor 2022. Geneva: World Health Organization; 2022. Licence: CC BY-NC-SA 3.0 IGO

¹⁵ Noncommunicable diseases country profiles 2018 (Lebanon). Geneva: World Health Organization; 2018 (https://www.who.int/nmh/countries/lbn_en.pdf, accessed 22 March 2022)

¹⁶ ESCWA. Multidimensional poverty in Lebanon (2019–2021). 2021.

¹⁷ Bizri, A. R., Khachfe, H. H., Fares, M. Y., & Musharrafieh, U. (2020;2021). COVID-19 pandemic: An insult over injury for Lebanon. *Journal of Community Health*, 46(3), 487–493. <https://doi.org/10.1007/s10900-020-00884-y>

¹⁸ World Health Organization. (2020). Beirut Port Blast: Emergency Strategic Response Plan. <http://www.emro.who.int/images/stories/lebanon/who-lebanon-strategic-response-plan-27.9.20.pdf?ua=1>

¹⁹ Kawa, N., Abisaab, J., Abiad, F., Badr, K., El-Kak, F., Alameddine, M., & Balsari, S. (2022). The toll of cascading crises on Lebanon's health workforce. *The Lancet Global Health*, 10(2), e177–e178. [https://doi.org/10.1016/S2214-109X\(21\)00493-9](https://doi.org/10.1016/S2214-109X(21)00493-9)

²⁰ Ibid

²¹ WHO EMRO. Prevention and control of noncommunicable diseases in emergencies. <http://www.emro.who.int/pdf/noncommunicable-diseases/publications/questions-and-answers-on-prevention-and-control-of-noncommunicable-diseases-in-emergencies.pdf>

²² Ibid

²³ Khattar, G., Hallit, J., El Chamieh, C., & Bou Sanayeh, E. (2022). Cardiovascular drug shortages in Lebanon: A broken heart. *Health Economics Review*, 12(1), 24–24. <https://doi.org/10.1186/s13561-022-00369-9>

²⁴ Karak, F. E., Rawadi, E., Sawan, J., & Haddad, F. G. (2021). The impact of disasters on cancer care in Lebanon. *Future Oncology (London, England)*, 17(6), 629–631. <https://doi.org/10.2217/fon-2020-0927>

²⁵ WHO EMRO. Prevention and control of noncommunicable diseases in emergencies. <http://www.emro.who.int/pdf/noncommunicable-diseases/publications/questions-and-answers-on-prevention-and-control-of-noncommunicable-diseases-in-emergencies.pdf>

disease progression, and design interventions to strengthen national surveillance and prevention systems.^{26,27}

Lebanon implemented a previous round of the STEPS survey in 2017, which included 1,899 Lebanese adults and 2,134 Syrian refugees.²⁸

Findings from the 2017 survey indicated a high burden of NCD risk factors in both populations, and comparably higher than in neighbouring countries of the Eastern Mediterranean region. Around 35% of Lebanese and 33% of Syrian refugees had hypertension (≥ 140 mm Hg/ ≥ 90 mm Hg); 10.5% and 9.4% had diabetes respectively. Cardiovascular Diseases (CVDs) were reported among 8.2% of Lebanese and 9.7% of Syrian refugees. Both Lebanese and Syrian refugees were found to have raised total cholesterol at 65.4% and 48.8% respectively.

1.5. Health seeking behaviours

High-quality health systems rely on the populations that they serve, who are not only service users of care, but also key actors in shaping and holding the system accountable.²⁹ For this, understanding user expectations, needs, and health seeking behaviours is essential for informing reforms and designing services that are equitable, accessible, and responsive.

The “Lebanon National Health Strategy: Vision 2030” emphasizes on expanding Universal Health Coverage (UHC), improving service quality, strengthening governance, and investing in digitalization and emergency preparedness.³⁰ Data from the UHC project, in addition to anecdotal evidence from refugee and from private ambulatory care settings, indicate gaps between supply and demand for care, as well as between rationally defined needs and actual utilization.³¹ A recent study on access to care for diabetes and hypertension in a community hosting Syrian refugees found that Lebanese host community members reported better access and fewer medication interruptions compared to Syrian refugees. Nevertheless, national data on health expenditures and service utilization remain limited.

Since a recent comprehensive “Household Health Expenditures and Utilization Survey” could not be implemented in Lebanon, mainly due to constraints faced by the Central Administration of Statistics, WHO integrated a dedicated module on health seeking behaviour into the current NCD STEPS survey. The module provides information on health care access, coverage, and spending, offering insights to review national health benefit packages and strengthen UHC-oriented reforms.

1.6. Survey rationale

Noncommunicable diseases pose a growing challenge to health and development priorities in Lebanon. Since 2019, there has been no updated data profiling of chronic conditions among Lebanese nationals or refugee populations. Given the rapidly changing contextual factors that affect NCD prevention and

26 Riley, L., Guthold, R., Cowan, M., Savin, S., Bhatti, L., Armstrong, T., & Bonita, R. (2016). The World Health Organization STEPwise Approach to Non-communicable Disease Risk-Factor Surveillance: Methods, Challenges, and Opportunities. *American Journal of Public Health*, 106(1), 74–78. <http://doi.org/10.2105/AJPH.2015.302962>

27 World Health Organization. (2016). Chronic Diseases and Health Promotion: STEPwise Approach to Non-communicable Disease Risk Factor Surveillance (STEPS). Retrieved from <http://www.who.int/chp/steps/riskfactor/en/>

28 <https://extranet.who.int/ncdsmicrodata/index.php/catalog/410/study-description>

29 Kruk ME et al. High-quality health systems in the Sustainable Development Goals era: time for a revolution. *Lancet Glob Health*. 2018 Nov;6(11): e1196-e1252. Doi: 10.1016/S2214-109X(18)30386-3. PMID: 30196093; PMCID: PMC7734391.

30 Ministry of Public Health. (N.d). Lebanon National Health Strategy: Vision 2030 out of the crisis and towards better health for all. <https://www.moph.gov.lb/en/Pages/0/67043/lebanon-national-health-strategy-vision-2030>

31 Lyles E, Burnham G, Chlela L, Spiegel P, Morlock L, Doocy S, et al. Health service utilization and adherence to medication for hypertension and diabetes among Syrian refugees and affected host communities in Lebanon. *Journal of Diabetes & Metabolic Disorders*. 2020;19(2):1245-59.

management at both individual and system levels, up-to-date NCD profiling is needed. The inclusion of data on household health practices and preferences, including health care access, health care coverage, and expenditures, etc. can provide timely insights into the financial crisis on health seeking behaviour practices and support planning for UHC in Lebanon.

As part of NCD routine surveillance, WHO recommends conducting a population-based nationwide survey every 5 years to assess trends in risk factor prevalence and to monitor the implementation of NCD related policies and programs. An updated surveillance of NCD risk factors in Lebanon is particularly needed given the changes in country context and demographic shifts.

The selection of the eight core risk factors including: raised blood pressure, tobacco use, alcohol use, unhealthy diet, insufficient physical activity, overweight/obesity, raised blood glucose, and raised blood cholesterol, is consistent with the WHO guidance, as these risk factors:^{32,33,34}

- Have the greatest impact on NCD mortality and morbidity;
- May be modified through prevention strategies;
- May be measured reliably; and
- Can be obtained using appropriate ethical standards.

1.7. Objectives

The primary objective of the survey is to estimate the prevalence of key behavioural and biological NCD risk factors among Lebanese adults and Syrian refugees aged 18-69 years through the WHO STEPS approach at household level. In addition to core factors listed above, expanded and optional items were also included:

- Sociodemographic and health-related behavioural information: tobacco and alcohol use, nutritional status, physical activity, suicide and depression, and cervical cancer screening, in addition to information on health seeking behaviour practices and health expenditure;
- Physical measurements including body weight, BMI, waist circumference, to determine the proportion of adults with overweight, obesity, and those with high blood pressure; and
- Collection of blood, using point of care devices (dry chemistry), and urine samples for biochemical analysis to measure indices for diabetes (fasting blood glucose, HbA1c), total lipid profile (triglycerides, total cholesterol, high-density lipoprotein (HDL), low-density lipoprotein (LDL)), as well as urine salt (urinary sodium and creatinine concentration).

³² Riley L, Guthold R, Cowan M, Savin S, Bhatti L, Armstrong T, et al. The World Health Organization STEPwise Approach to Noncommunicable Disease Risk-Factor Surveillance: Methods, Challenges, and Opportunities. *AJPH*. 2016;106(1):74-8.

³³ Armstrong T, Bonita R. Capacity building for an integrated noncommunicable disease risk factor surveillance system in developing countries. *Ethnicity and Disease*. 2003;13(Suppl 2):S13-S18.

³⁴ Alwan A, Maclean DR, Riley LM, d'Espaignet ET, Mathers CD, Stevens GA, et al. Monitoring and surveillance of chronic noncommunicable diseases: progress and capacity in high-burden countries. *The Lancet*. 2010;376:1861–1868.

2. Methods

2.1. Survey population

The survey aimed to obtain a sample representative of both the Lebanese nationals and Syrian refugees residing in Lebanon. The sample distribution reflected the relative size of each population group. Estimates were calculated separately for 6 age-sex groups: females aged 18-29, 30-44 and 45-69 years, as well as males in the same age categories.

Several contextual uncertainties were acknowledged when designing the sample. These included the fluid nature of the Syrian refugee crisis, with new influxes and departures occurring shortly before implementation, the prolonged economic crisis since October 2019 potentially exacerbating the migration flux out of Lebanon, especially those in the reproductive age groups.

2.2. Sample size

The sample size was calculated in accordance with WHO STEPS recommendations (STEPS Manual, Part Two, Section Two, Pages 3-9).³⁵

The initial sample size calculation assumed a level of confidence measure of 1.96, a margin of error of 0.05³⁶, a risk factor prevalence of 0.5, and a design effect of 1.5. $p=0.5$ (50%), resulting in a minimal sample size of 576 per age-sex group. The calculated sample size was multiplied by 6 (number of age-sex groups) and divided by 0.8 to account for an anticipated response rate of 80%. The final sample size was expected to be at least 4,320 (720 per age-sex group).

The final sample was proportionally allocated between Lebanese nationals and Syrian refugees, following the national distribution of each group. This approach reflected the estimated demographic composition of the population, as shown in the table below (Table 1).

Table 1: Sample size distribution by population (STEPS Lebanon, 2024)

Population ^{a,b}	%	Sample Size
Lebanese population residing in Lebanese communities	70%	3,024
Syrian population residing in Lebanese communities	30%	1,296
Total Sample	100%	4,320

^a Population estimates = 5.5 million in Lebanon. Source: The World Bank, Lebanon, 2022.

^b Population estimates = 1.5 million (≈30% of population in Lebanon). Source: UNHCR, Lebanon, 2023.

³⁵ World Health Organization. Noncommunicable disease surveillance, monitoring and reporting: STEPS manual. World Health Organization. <https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps/manuals>

³⁶ A margin of error of 0.05 was selected as the estimated baseline levels of the behaviors or indicators to be measured based on previous NCD STEPS assessments exceed 0.1.

2.3. Sampling

2.3.1. Survey design

A national cross-sectional survey was conducted using a multi-stage cluster sampling designed to be representative of the population groups and geographic distribution.

2.3.2. Geographical coverage

The survey covered all 8 governorates of Lebanon. It originally included a total of 288 clusters, each composed of 15 participants. Selecting 15 participants per cluster allowed for the heterogeneity within cluster while keeping the homogeneity between clusters.

Following displacement from armed confrontation areas along the Southern Lebanese border since October 2023, 24 clusters from the South, Nabatieh, and Beirut Suburbs (Al Dahyeh) were dropped; decreasing the sample size to 3,960.

2.3.3. Sample frame and recruitment of participants

The sampling frame consisted of the latest Central Administration of Statistics and the United Nations High Commissioner for Refugees (UNHCR) available data. A demographer was consulted to confirm the validity of the data, and that no other recent data had become available.

The Primary Sampling Units (PSUs) were cadastral areas (cadastres) and the Secondary Sampling Units (SSUs) were the households. Fifteen participants were recruited from each cluster. PSUs were selected using Probability Proportionate to Size based on the latest available cadastral population estimates. To account for the variability in the cadastres' sizes, very small cadastres (<200 individuals) were combined with adjacent PSUs before selecting the sample, to increase the likelihood of identifying 15 participants. On the other hand, cadastres with a large population size that were guaranteed to be sampled at least twice were handled as a separate stratum. Each stratum was assigned a fixed number of random starting points based on the number of times it was selected with certainty.

Household selection

Households were identified by randomly selecting a landmark from a list of landmarks in each cluster identified prior to the survey with the support of local authorities. From the selected landmark, a direction was chosen by spinning a pen or another sharp object to approach the first household. Subsequent households were selected by applying a systematic selection procedure. The selected households in a building were visited starting with the highest floor. If the end of a street was reached, the neighbouring street was chosen following a clockwise approach. Households were selected until the target of 15 participants in the 18-69-year age group was reached.

Participant selection

One participant was selected within each household, using the random selection procedure integrated in the eSTEPS application on Android devices. In line with the STEPS approach, sampling of participants was non-replacement, i.e., once a person selected is found to be not available or refuses to participate, they are not replaced with another one.

If the house was unoccupied at the time of the visit, or if an adult was not available for interview at the time of the visit, field teams made up to four repeat visits at different times. The number of refusals and non-response (empty households, unavailable eligible participants) was recorded.

Only those who resided in the household for more than 6 months prior to the survey were included in the selection cascade in the eSTEPS application of the household. This methodology did not include Syrian refugees residing in informal settlements or collective shelters.

For programmatic purposes, residents who were from nationalities other than Lebanese, Syrian, or Palestinian were excluded from this survey even if they resided in the household for more than 6 months. Pregnant females were excluded from the weight, height, and waist and hip circumferences measurement in Step 2, and from urine collection in Step 3. Individuals who were bedridden, had a chronic disability, or other conditions that could compromise the interview or measurement process were also excluded from Steps 2 and 3.

2.4. Instrument

The Arabic version of the STEPS instrument was adapted to the Lebanese setting, only by adding examples relative to the Lebanese context. In addition, questions regarding location of the household, nationality of participants, and comorbidities were added.

An additional module on Health Seeking Behaviours was developed and included in Step 1. Questions related to health expenditure and health care coverage were designed based on the National Household Health Expenditures and Utilization Survey (NHHEUS) that was undertaken in 1998,^{37,38} as well as on Sustainable Development Goals (SDG) indicators 3.8.1 and 3.8.2. The focus in this module was on disease-health conditions in the household; coverage schemes; health access, utilization, preferences and needs; health expenditure information; and perception about services and quality.

The adapted and developed modules were reviewed by the experts in the national technical coordinating committee. The tool was forward and back translated from English to Arabic, and shared with the STEPS team to be uploaded on eSTEPS and ODK Collect applications on Android devices.

The use of eSTEPS provided the following benefits: immediate error-checking during data collection (e.g., inadvertently skipped questions or out-of-range responses); significantly reduced data entry errors; marked reduction of materials to be carried by data collectors and no additional data entry required. eSTEPS also allowed for remote data submission using Wi-Fi or mobile data connections. This not only ensured greater data security but allowed for closer monitoring of fieldwork by the coordinating committee and quality and monitoring officer.

³⁷ Kronfol, N. M. (2006). Rebuilding of the Lebanese health care system: health sector reforms. EMHJ-Eastern Mediterranean Health Journal, 12 (3-4), 459-473, 2006.

³⁸ Ammar, W. (2003). Chapter Three - FINANCING OF THE HEALTH SYSTEM. Health System and Reform in Lebanon . Retrieved from <https://www.moph.gov.lb/userfiles/files/Publications/HealthSystem%26Reform2003/ChapterIII/margin.pdf>

2.5. Scope

This survey used the WHO STEPwise approach for the surveillance of NCD risk factors. The STEPS Instrument v3.2 was used containing Steps 1, 2 and 3, as follows:

	Modules	Purpose
STEP 1 Behavioural	Core items	Basic demographic information including age, sex, and years at school
		Tobacco use, duration and quantity of smoking, quit attempts, past smoking, smokeless tobacco use
		Alcohol consumption, cessation, binge drinking, past 7 days drinking, consumption of untaxed alcohol
		Fruit and vegetable consumption, consumption of salt and processed food high in salt
		Physical activity at work/in the household, for transport and during leisure time
		History of raised blood pressure, diabetes, raised total cholesterol and cardiovascular diseases
		Lifestyle advice
	Expanded items	Expanded demographic information including level of education, marital and employment status, and household income
		Alcohol use disorders
		Oil and consumption, meals outside a home, awareness of too much salt as a health problem, and control of salt intake
		Sedentary behaviour
	Optional	Mental health/depression
		Mental health/suicide
		Cervical cancer screening
	Additional	Health seeking behaviours
STEP 2 Physical measurements	Core items	Blood pressure
		Height and weight
		Waist circumference
	Expanded items	Heart rate
STEP 3 Biochemical measurements	Core items	Urinary sodium and creatinine
		Blood glucose
		Total cholesterol
	Expanded items	Triglycerides
		HDL and LDL cholesterol
	Optional	HbA1c

* Items shaded in grey were not included in the LEBANON STEPS 2017.

2.6. Staff recruitment and training

The field staff consisted of field team coordinators, interviewers, nurses, administrative staff, and drivers. Sixty teams, each composed of a nurse and an enumerator, were recruited in twenty-six districts. A maximum of 32 teams were capable of operating at the same time. In addition, some data collectors and nurses who participated in the previous NCD STEPS in 2017 were also recruited. A male interviewer and a female nurse were recruited for cultural considerations, as female participants may be more comfortable when physical measurements are taken by a female nurse.

A 5-day Training of Trainers was conducted by WHO teams, focusing on data collection procedures, quality standards, and the use of the eSTEPS application, followed by hands-on sessions on physical measurements and sample collection. This was succeeded by a 3-day central training in Beirut, combining classroom instruction and practical exercises, with materials translated into Arabic and tailored to the WHO STEPS Manual. Refresher trainings were also organized to address the gap between training and the survey start date.

2.7. Piloting

Pilot testing was carried out before data collection in a residential area that was not included in the study sample. The data collected during the pilot testing was not included in the final dataset and analysis. Only Steps 1 and 2 were piloted with the main aim to assess the refusal and completion rates to identify problems in the tool and table usage, and to determine challenges in the field method.

2.8. Data collection

Data collection was initiated on 21 November 2023 and completed by 8 February 2024. Data collection at household level involved two visits: one visit to complete Steps 1 and 2 and the second visit to carry out Step 3. Household data collection for Step 3 addressed the problem of selection bias by providing all biochemical sampling at home. The household data collection also addressed the issue of no show that was encountered in several national studies with multiple steps and prevented the skewing towards the people most in need to do the test.

Data collection teams progressively received a bag containing all the forms and equipment needed to conduct the STEPS survey. All the equipment and devices that were used were given a unique ID. The interviewers were provided with QR codes to be allocated to each participant. The QR codes were pre-set and sent from WHO HQ. The field coordinators also obtained household lists and maps of the selected clusters from the Statistical Adviser, managing them, and providing them to the data collectors during the fieldwork. A form was signed for all items that were being delivered.

Steps 1 and 2 were conducted simultaneously on the same day. The first visits were scheduled during the day and night to ensure the representativeness of the sample so that working people who would not be present at home during the day would not be missed. After reaching the assigned cluster, the interviewers started by approaching the households. The interviewers were asked to complete around 5 visits per day. If nobody was home, they left a Notification Card and recorded on the Interview Tracking Form; and if someone was home, they introduced themselves, following the introductory script developed for teams, and exchanged greetings. The interviewers recorded every household visited on the Interview Tracking Form. Then, they explained the reason for the visit and purpose of the STEPS surveillance. After that, if participants consented to the survey, the surveyors recorded on eSTEPS software each eligible person living in the household aged 18 years and above, then the software randomly selected 1 eligible participant.

After choosing the eligible participant, the interviewer explained the aim of the survey, the main processes that were carried out, duration of the survey, participant's benefits and rights, and how

confidentiality was handled. The participant must have provided both verbal and written consent before taking part in the survey. There were 2 copies of each consent form, one was given to the participant, and the other was kept with the interviewer.

The adapted STEPS instrument, uploaded to the Android devices, was used to fill the core, expanded, and optional modules. One instrument was completed for each participant who was interviewed and measured. Apart from the questions that should be skipped depending on the response given in other questions, all items on the instrument must have been completed for the response to be valid.

Show cards were used to explain what was meant by some of the questions on the instrument, covering the following topics: tobacco products, alcohol consumption (standard drink), diet (typical fruit and vegetables and serving sizes, foods high in salt), types of physical activities, and violence and injuries. Show cards appeared on the screen of the Android device along with the related question(s).

For Step 2, the nurse took physical and anthropometric measurements to determine the proportion of adults that had raised blood pressure and had overweight or obesity. The nurse asked the participant to move into a private area in the house, as this step needed privacy. The nurse asked the participant to sit quietly for 15 minutes with legs uncrossed, for blood pressure measurement. Participants should have had an empty bladder, should not have talked, and should have had the elbow supported during the measurement. The nurse placed the left arm of the participant on a table with palm facing upwards. The participant was asked to remove or roll up clothing on the arm (with rolling up the clothes not tight). The cuff was positioned above the elbow so that the lower band was positioned 1-2 cm above the elbow joint and the cuff was wrapped snugly onto the arm and securely fastened with Velcro. Then, the level of the cuff was kept the same as heart during measurement. Three measurements were taken, resting the participants 3 minutes between each measurement. The measurements were recorded on the Android device.

Height was measured using a portable stadiometer with a movable arm. The nurse asked the participant to 1) remove footwear and headgear; 2) stand with feet together, heels against back board, and knees straight; 3) look straight ahead; and 4) make sure eyes were levelled with ears. Then, the nurse moved the measuring arm of the board gently down onto the head and asked participant to stand tall, read the height in centimetres and recorded the measure on the Android device. The nurse proceeded by taking the weight. S/he placed the scale on a firm and flat surface and asked the participant to remove footwear, if the participant wore it again after the height measurement. The participant was asked to 1) step on the scale and to stand still; 2) face forward; 3) place arms at side; and 4) wait until asked to step off. Then, the interviewer entered the weight into the Android device.

The waist and hip measurement were taken directly over the skin or over light clothing. It was taken at the end of a normal expiration after a few natural breaths, with arms relaxed at the sides and at midpoint between the lower margin of the last palpable rib and the top of the iliac crest (hip bone). The nurse asked the participant to 1) locate the last palpable rib and the top of the hip bone; 2) wrap the tape around themselves and position the tape at midpoint between the last palpable rib and the top of the hip bone, making sure to wrap the tape over the same spot on the opposite side; 3) stand with feet together and weight evenly distributed; 4) leave arms relaxed at the sides; and 5) breathe out gently after taking a few natural breaths. The nurse measured waist circumference and read measurement at level of tape to the nearest 0.1 centimetres, making sure the tape was snug but not compressing the skin, then recorded the measurement.

After the physical measurements were taken, the nurse filled in the Participant Feedback Form and gave it to the participant after finishing the survey. BMI was directly calculated by the tablet software.

For Step 3, the participants were provided with urine cups to collect their sample urine in the evening before fasting. The nurse also made an appointment for Step 3 for the next day (if consent given) and provided instructions on the correct method of fasting. An appointment card was presented to the participants including a QR code which corresponded to his/her Participant Identification Number (PID)

number that was used by the nurse on the second day to continue filling the survey and link the data to Steps 1 and 2 during the analysis. During the second visit on the next day, the nurse drew the blood sample from the fingertip using the dry chemistry technique and following the Blood Withdrawal Instructions to ensure the safety of the participant and the quality of the blood collected. These instructions covered the proper equipment selection and use, proper participant preparation, safety and infection control procedures, and quality assurance issues. The Participant Feedback Form was used in order to give the participant feedback on his/her blood measurements. Then, the nurse collected the filled urine cup and put them in zipped plastic bags, after placing a label on it with the PID QR code of the participant and put it in plastic coolers at 5-10 degrees Celsius, which was delivered to the laboratory on the same day by drivers assigned in the different regions and through specific pre-selected collection points. When the laboratory finalized the urinary sodium and creatinine results, they were shared with the participant via WhatsApp and were recorded on the Android devices. Urine samples were excluded from the analysis if the participant fasted before taking the sample, or if the sample was contaminated with blood.

In addition, all participants received a list of PHC centres for orientation to services, including those that have mental health services, as well as the national hotline for emotional support and suicide prevention, the 1564 Lifeline.

2.9. Data downloading

Throughout the data collection phase, data collector teams uploaded the data on daily basis. The statistical team performed regular checks on the quality of the data being collected through some basic descriptive analyses and by checking for duplicates and other errors. All the issues that were appraised by the statistical team were immediately communicated to the data collectors in order to avoid reoccurrence of errors.

Before downloading the data from ONA server, all tablets were checked to ensure that completed surveys were uploaded to the server. On each device, the “Submit Records” from the eSTEPS application home screen was tapped to check if there were any records still to be submitted. Only once this check was done on all devices used for data collection, the downloading process was performed.

Two datasets were downloaded from ONA server; one for STEPS 1 and 2 and the second for STEP 3. The 2 datasets were compiled together using the barcodes and QR codes assigned for each participant. The team also matched the name and age of the participant to guarantee that there were no duplicates.

2.10. Analysis information

2.10.1. Data cleaning

Data cleaning was performed using the Statistical Package for Social Sciences (SPSS) Version 21. This step included checking for duplicates, missing, or conflicting data and implausible or illogical responses; performing descriptive statistics, frequency tables to look for outliers; checking variables and value labels, for example for typing mistakes and wrong scales; making sure that variables were of the appropriate type (numerical or string); and proper coding of missing data, skip pattern or unanswered questions.

2.10.2. Data weighing

Weighing the data was a critical step, to have representative results of the entire population. For all the Steps, collected data from the sample was weighed to provide prevalence estimates at the level of the population. The weighing accounted for age groups and sex (6 age-sex groups) (Table 2).

Table 2: Unweighted and weighted distribution of the sample by age group and sex (STEPS Lebanon, 2024)

Age categories (years)	Sex	Unweighted n	Unweighted %	Weighted %
18–29	Males	168	5.8	15.2
	Females	267	9.2	16.3
	Total	435	15.0	31.5
30–44	Males	292	10.0	14.0
	Females	537	18.5	15.4
	Total	829	28.5	29.4
45–69	Males	593	20.4	18.2
	Females	1,051	36.1	20.9
	Total	1,644	56.5	39.1
All ages	Males	1,053	36.2	47.4
	Females	1,855	63.8	52.6
	Total	2,908	100.0	100.0

2.10.3. Data analysis

Data analysis was conducted using RStudio for descriptive and advanced analyses. The standardized analysis programs/syntaxes provided by the STEPS team were adopted. A databook was created entailing the detailed plan of statistical analysis for this project.

Each of the data tables in the data books contained results for each age-sex group and for each population separately. For each age-sex group in the table, the point estimate was given (prevalence or mean) along with 95% confidence interval (CI) (except for the demographic information), and the total number of individuals included in the analysis for that age-sex group “n”, for example, the total number of males aged 18-29 included in the analysis). Both the point estimates (prevalences or means) and the 95% confidence intervals were rounded to one decimal point. The total estimates presented were all weighted as indicated above. For selected comparisons across sex, age group, and nationality, statistical significance was evaluated, and differences were considered significant when $p < 0.05$. The biochemical analysis included cut-offs for each test, which can be found in the next sub-section. The preliminary results were discussed between WHO and MoPH prior to finalization.

2.11. Ethical considerations

An ethical clearance was obtained for this survey from the Rafic Hariri University Hospital Institutional Review Board. Additional ethical assurance was obtained from WHO Eastern Mediterranean Regional Office, upon submission of the implementation plan and local Institutional Review Board approval.

The survey posed minimal risk to participants, with no anticipated adverse events from blood withdrawal or urine collection. While there were no direct benefits or monetary incentives, participants received their blood pressure, anthropometric, and biochemical results, along with health promotion materials on lifestyle changes, NCD prevention, and health venues where care could be obtained.

Written or thumb-printed informed consent was obtained, detailing the survey's purpose, voluntary nature, confidentiality, risks, benefits, and the right to withdraw at any time without penalty. Data confidentiality was ensured through training, anonymization, and secure storage, with personal identifiers linked only to unique participant IDs (QR codes) for tracking purposes.

All data was encrypted, securely stored at CRD, and only anonymized data were shared with WHO. Urine samples were de-identified and stored in a designated lab compartment.

2.12. Communication campaign strategy

A national communication campaign was designed to promote the NCD STEPS survey and encourage participation across Lebanon. To maximize reach, communication was disseminated through diverse channels, taking into account barriers related to limited electricity, internet, and mobile services. CRD engaged municipalities, local leaders, health care centres, and non-governmental organizations to facilitate community engagement and encourage participation, supported by official MoPH letters to ease field team access. A concise and engaging awareness raising video on the survey was broadcasted on TV, radio, and social media platforms.

2.13. Triangulation and expert validation

An expert validation and triangulation exercise was conducted to assess the face validity and comparability of STEPS 2024 indicators with the existing published literature before finalizing the report. Systematic searches were performed in PubMed using predefined keyword combinations for major NCDs and risk factors in Lebanon, and studies meeting explicit inclusion and exclusion criteria were used to derive pooled prevalence estimates for selected indicators (overweight/obesity, elevated blood pressure, elevated blood sugar, hyperlipidaemia, and physical inactivity) where feasible. In parallel, a structured process identified multidisciplinary experts from ministries, universities, professional orders, research institutes, and civil society, based on predefined criteria for research, practice, policy, and contextual expertise. Five thematic workshops (lifestyle, biochemical and physical measurements, tobacco, alcohol, and mental health/violence/injury) were convened, during which experts reviewed selected STEPS indicators alongside the reviewed literature, recorded levels of agreement, disagreement, or non-comparability, and added possible explanation and contextualization of the findings. This triangulation and expert validation process aimed to enhance the credibility, interpretability, and policy relevance of the STEPS findings in the shifting context of NCD patterns in Lebanon.

3. Results

3.1. Response rate

The target sample was originally 4,320 participants; however, following the hostilities at the Southern Lebanese border and Beirut Suburbs (Al Dahyeh), a sample size of 3,960 was visited, out of which a final sample of 2,908 respondents was achieved, of which 2,231 were Lebanese and 621 were Syrians. Table 3 provides details on response rate per Step among actual participants.

Table 3: Survey recruitment and response rate (STEPS Lebanon, 2024)

Step	Description	Sample	Response rate		
			Out of target (n=4,320)	Out of recruited (n=3,960)	Out of actual respondents (n=2,908)
Step 1	Questionnaire (Sociodemographic and behavioural information)	2,908	67%	73%	100%
Step 2	Physical measurements (height, weight, blood pressure)	2,857	66%	72%	98%
Step 3	Biochemical measurements (blood and urine samples)	2,675	62%	68%	92%
Step 3 – Urine	Urine sample collection	2,625	61%	66%	90%
Step 3 – Blood	Blood sample collection	2,431	56%	61%	84%

3.2. Demographic characteristics

3.2.1. Sex, age group, and nationality distribution

Of a total of 2,908 participants were enrolled in the survey, 2,231 (76.7%) were Lebanese, 621 (21.4%) were Syrians, and 56 (1.9%) of other nationalities. The sample included 36.2% males and 63.8% females. There was no difference in the sex distribution between the two nationalities ($p=0.129$).

The mean age of participants was 40.3 years (95% CI: 39.4–41.2). When stratified by sex, the mean age was similar among males and females. Males had a mean age of 40.0 years (95% CI: 38.6–41.4), while females had a mean age of 40.5 years (95% CI: 39.4–41.6). The median age of all participants was 47 years (IQR: 35–49 years), with a statistically significant difference between the two nationalities: 51 years (IQR: 38–61) for Lebanese and 38 years (IQR: 19–46) for Syrians ($p < 0.001$).

In addition, the median number of individuals older than 18 living in the same household was 2 (IQR: 2–3) for all participants.

Table 4: Distribution of the sample, by sex, age group, and nationality (STEPS Lebanon, 2024)

Age group and sex of respondents						
	 Male		 Female		 Total	
Age categories (years)	n	%	n	%	n	%
18-29	173	37.9	283	62.1	456	15.7
30-44	297	35.4	543	64.6	840	28.9
45-69	583	36.2	1,029	63.8	1,612	55.4
Total	1,053	36.2	1,855	63.8	2,908	100.0
Nationality*						
Lebanese	792	35.5	1,439	64.5	2,231	100.0
Syrian	241	38.8	380	61.2	621	100.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 5: Distribution of the sample, by age group and nationality (STEPS Lebanon, 2024)

Nationality of respondents				
Total				
Age categories (years)	n	% Lebanese	% Syrian	% Other
18-29	456	62.7	35.1	2.2
30-44	840	65.1	33.0	1.9
45-69	1,612	86.7	11.4	1.9
Total	2,908	76.7	21.4	1.9
Nationality*				
Lebanese	2,231	100.0	0.0	0.0
Syrian	621	0.0	100.0	0.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.2.2. Educational attainment

Education levels, measured as mean years of schooling, were 9.2 years. A statistically significant difference was observed between the two nationalities ($p < 0.001$), with Syrian participants reporting fewer years of education. Education was subsequently divided into nine categories as presented in Table 6, to provide additional details of attainment by age-groups and by nationality.

Table 6: Education, by age group and nationality (STEPS Lebanon, 2024)

Highest level of education										
Total										
Age categories (years)	n	Illiterate	Less than primary school (reads and writes)	Primary school completed	Elementary school completed	Intermediate school completed	Secondary school completed	University completed	Post graduate degree	Vocational degree
18-29	456	2.4	3.9	2.4	20.6	23.9	16.7	21.1	1.8	7.2
30-44	840	5.6	5.2	3.7	26.9	23.0	11.3	15.8	2.5	6.0
45-69	1,611	7.8	9.1	5.6	23.8	27.3	12.9	9.0	1.2	3.4
Total	2,907	6.3	7.2	4.5	24.2	25.5	13.0	12.9	1.7	4.7
Nationality*										
Lebanese	2,231	5.0	6.8	4.3	20.1	26.0	14.9	15.2	2.0	5.6
Syrian	620	11.5	8.5	5.6	38.7	23.1	6.3	4.2	0.2	1.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.2.3. Other sociodemographic characteristics

The majority of participants were married (63.9%): 60.9% of Lebanese and 75.2% of Syrians. This difference was statistically significant ($p < 0.001$).

Nearly 42.8% reported employment with the past 12 months. The remaining 57.2% out of the whole sample were not working, out of which (38.8%) reported being homemakers. Among employed, Syrians reported higher rates of informal work (19.1%) compared to Lebanese (8.4%).

The mean monthly household income among participants was 27.6 million Lebanese pounds (LBP) (95% CI: 23.1-32.0 million LBP). When stratified by nationality, Lebanese participants reported a higher mean monthly income of 30.5 million LBP (95% CI: 25.4-35.7 million LBP), compared with 18.8 million LBP (95% CI: 14.8-22.8 million LBP) among Syrian participants. Using the average exchange rate at the time of data collection (approximately 89,500 LBP = 1 USD), this corresponds to USD 341 and USD 210, respectively. Mean monthly household income varied by age group and nationality. Overall, Lebanese participants reported higher mean monthly income than Syrian participants across all age groups. These data are not presented in tables.

3.3. Tobacco use

3.3.1. Patterns of tobacco use

Amongst the whole sample, 52.7% were using tobacco, which is defined as smoking or using smokeless tobacco products. For smokeless tobacco, usage was minimal (1.0%, 95% CI 0.6 - 1.8). For tobacco smoking, out of the whole sample, 52.1% are current smokers, 7.7% are former smokers, and 40.1% have never smoked (Table 7). In addition, among those who reported smoking, 78.8% reported smoking on a daily basis.

Table 7: Smoking status of the sample, by sex, age group, and nationality (STEPS Lebanon, 2024)

Smoking status									
Total									
	Current smoker					Non-smokers			
Age categories (years)	n	% Daily	95% CI	% Non-Daily	95% CI	% Former smoker	95% CI	% Never smoker	95% CI
18-29	456	34.8	29.2 - 41.0	13.5	9.3 - 19.1	9.2	5.9 - 14.1	42.5	35.7 - 49.5
30-44	840	44.2	39.6 - 48.9	10.4	8.0 - 13.4	5.9	4.2 - 8.1	39.6	34.5 - 44.8
45-69	1,612	43.9	40.7 - 47.1	9.5	7.4 - 12.2	7.9	6.3 - 9.9	38.6	35.2 - 42.2
Total	2,908	41.1	38.2 - 44.0	11.1	8.9 - 13.6	7.7	6.3 - 9.4	40.1	36.7 - 43.7
Nationality*									
Lebanese	2,231	42.4	39.1 - 45.8	11.2	8.9 - 14.0	8.4	6.9 - 10.3	37.9	34.4 - 41.5
Syrian	621	35.9	30.6 - 41.6	10.1	6.5 - 15.2	5.8	3.3 - 9.9	48.3	41.1 - 55.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Smoking is more prevalent among males (60.5%) than females (44.6%). Among males, 50.0% smoked daily and 9.0% were former smokers, while among females, 33.1% smoked daily.

By nationality, smoking was slightly higher among Syrian males (62.4%) compared to Lebanese males (59.8%), whereas the reverse is seen among females, with Lebanese females (48.3%) smoking more than Syrian females (29.2%) (Table 8). However, this sex-nationality comparison should be interpreted with caution, as the number of Syrian female respondents was considerably smaller (N=380).

Table 8: Current smokers, by sex, age group, and nationality (STEPS Lebanon, 2024)

Percentage of current smokers									
	Male			Female			Total		
Age categories (years)	n	% Current smoker	95% CI	n	% Current smoker	95% CI	n	% Current smoker	95% CI
18-29	173	59.1	48.7 - 68.8	283	38.4	30.8 - 46.6	456	48.3	41.6 - 55.1
30-44	297	67.0	61.2 - 72.2	543	43.3	37.0 - 49.8	840	54.6	50.0 - 59.1
45-69	583	56.7	50.7 - 62.4	1,029	50.6	46.3 - 54.9	1,612	53.4	49.9 - 56.9
Total	1,053	60.5	56.4 - 64.5	1,855	44.6	40.4 - 48.9	2,908	52.1	49.0 - 55.2
Nationality*									
Lebanese	792	59.8	54.8 - 64.6	1,439	48.3	44.0 - 52.7	2,231	53.7	50.3 - 57.0
Syrian	241	62.4	53.2 - 70.8	380	29.2	22.3 - 37.2	621	46.0	39.7 - 52.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.3.2. Mean age of initiation and duration of smoking

The mean age of initiation of smoking was 20.2 years amongst smokers, with a mean age of initiation of smoking of 17.3 years for those in the age category 18-29 years of age.

The mean duration of smoking was reported to be 21.1 years amongst daily smokers, indicating that most individuals begin smoking in late adolescence or early adulthood. It is to note that amongst smokers, those aged 45-69 years reported a mean duration of smoking of 34.4 years, potentially meaning that once smoking is initiated, it becomes a life-long habit (Tables 9 and 10).

The duration of tobacco use increased steadily with age. Among participants in the age group (18-29), the mean duration of tobacco use was 6.3 years among daily smokers. Tobacco duration was substantially higher in the older age groups. Participants in age group (30-44) had on average, 10.3 more years of tobacco use compared with the youngest group ($p < 0.001$). Those in age group (45-69) reported 28.1 additional years of tobacco use relative to the youngest group ($p < 0.001$). Overall, the differences across age categories were statistically significant (Adjusted Wald $F(2,159) = 751.35$; $p < 0.001$), indicating progressively longer tobacco use history with increasing age. This likely suggests a tendency for continued smoking among those who start.

There was no significant difference in the mean duration of tobacco use between males and females ($p = 0.316$).

After adjusting for age, the difference in the mean duration of smoking between Lebanese and Syrians was not statistically significant.

Table 9: Mean age of initiation of smoking, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean age started smoking									
	Male			Female			Total		
Age categories (years)	n	Mean age	95% CI	n	Mean age	95% CI	n	Mean age	95% CI
18-29	92	16.9	15.9 - 17.9	71	18.1	16.9 - 19.3	163	17.3	16.6 - 18.1
30-44	158	18.2	17.5 - 19.0	165	23.1	22.0 - 24.3	323	20.2	19.3 - 21.0
45-69	270	20.1	19.0 - 21.2	408	24.1	22.7 - 25.6	678	22.1	21.1 - 23.1
Total	520	18.5	17.9 - 19.1	644	22.5	21.6 - 23.4	1,164	20.2	19.6 - 20.8
Nationality*									
Lebanese	378	18.5	17.8 - 19.2	554	22.5	21.5 - 23.5	932	20.3	19.6 - 21.0
Syrian	131	18.6	17.4 - 19.8	75	23.5	21.3 - 25.7	206	19.8	18.7 - 21.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 10: Mean duration of smoking, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean duration of smoking									
	Male			Female			Total		
Age categories (years)	n	Mean duration	95% CI	n	Mean duration	95% CI	n	Mean duration	95% CI
18-29	92	6.5	5.7 - 7.2	71	6.1	5.0 - 7.2	163	6.3	5.7 - 7.0
30-44	158	18.5	17.4 - 19.6	165	13.8	12.5 - 15.0	323	16.6	15.6 - 17.6
45-69	270	35.8	34.2 - 37.3	408	32.9	31.3 - 34.6	678	34.4	33.2 - 35.6
Total	520	21.1	19.3 - 22.8	644	21.3	19.5 - 23.1	1,164	21.1	19.8 - 22.5
Nationality*									
Lebanese	378	21.4	19.3 - 23.4	554	22.3	20.3 - 24.4	932	21.8	20.3 - 23.3
Syrian	131	19.4	16.6 - 22.2	75	13.8	10.8 - 16.8	206	18.0	15.6 - 20.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.3.3. Types of tobacco products

Among current smokers, 60.7% used manufactured cigarettes. Use of manufactured cigarettes was higher among males (70.3%) than females (49.0%) (Table 11).

Table 11: Percentage of smokers who use manufactured cigarettes among current smokers, by sex, age group, and nationality (STEPS Lebanon, 2024)

Manufactured cigarette smokers among current smokers									
	Male			Female			Total		
Age categories (years)	n	% Manufactured cigarette smoker	95% CI	n	% Manufactured cigarette smoker	95% CI	n	% Manufactured cigarette smoker	95% CI
18-29	110	65.2	51.3 - 76.8	110	27.9	18.5 - 39.6	220	49.8	40.3 - 59.2
30-44	187	65.6	57.2 - 73.1	229	33.0	26.4 - 40.4	416	51.8	45.7 - 57.8
45-69	317	79.1	73.2 - 83.9	495	72.6	66.4 - 78.1	812	75.8	71.5 - 79.6
Total	614	70.3	64.1 - 75.8	834	49.0	43.8 - 54.2	1,448	60.7	56.4 - 64.8
Nationality*									
Lebanese	447	69.8	62.9 - 76.0	703	51.3	45.8 - 56.6	1,150	60.9	56.5 - 65.2
Syrian	153	71.5	60.8 - 80.3	113	35.9	25.2 - 48.2	266	60.0	51.2 - 68.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among daily smokers, the mean amount of manufactured cigarettes was 15.1 cigarettes per day (95% CI: 13.8 - 16.4). When looking at quantity categories, most daily smokers were heavy users: about 44.0% smoked 15-24 cigarettes per day and 34.0% smoked ≥ 25 cigarettes per day (Table 12).

Table 12: Among daily cigarette smokers, percentage of smokers by quantities of manufactured or hand-rolled cigarettes per day, by sex and age group (STEPS Lebanon, 2024)

Percentage of daily cigarette smokers by quantities of manufactured or hand-rolled cigarettes per day											
Total											
Age categories (years)	n	% <5 Cigs.	95% CI	% 5-9 Cigs	95% CI	% 10-14 Cigs	95% CI	% 15-24 Cigs	95% CI	% ≥ 25 Cigs	95% CI
18-29	87	9.8	3.5 - 24.5	3.1	0.9 - 10.1	13.4	6.9 - 24.3	50.5	37.0 - 63.9	23.3	13.2 - 37.9
30-44	184	5.6	2.6 - 12.0	2.6	1.2 - 5.6	14.1	9.5 - 20.5	40.3	31.7 - 49.6	37.3	28.4 - 47.1
45-69	577	5.9	3.9 - 8.7	4.6	3.0 - 7.0	10.2	7.0 - 14.7	42.4	37.1 - 47.8	36.9	31.8 - 42.2
Total	848	6.7	4.4 - 10.1	3.8	2.6 - 5.4	12.0	9.0 - 15.7	43.7	38.8 - 48.7	33.9	29.3 - 38.8
Lebanese	670	7.7	4.8 - 12.0	4.6	3.2 - 6.6	13.0	9.7 - 17.3	40.8	35.4 - 46.5	33.8	28.7 - 39.3
Syrian	160	3.3	1.2 - 8.5	0.5	0.1 - 2.3	7.9	3.8 - 16.0	54.2	42.7 - 65.4	34.0	24.2 - 45.4

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among current smokers, manufactured cigarettes remained the main product consumed (60.7%), followed by arguileh (43.6%) and was particularly high among females (53.7%) and the younger age groups. Hand-rolled cigarettes, pipes, cigars and other products were rarely used (each $\leq 4\%$) (Table 13).

Table 13: Percentage of current smokers by type of tobacco product, by age group and nationality (STEPS Lebanon, 2024)

Percentage of current smokers smoking each of the following products*									
Total									
Age categories (years)	n	% Manuf. cigs.	95% CI	n	% Hand-rolled cigs.	95% CI	n	% Pipes of tobacco	95% CI
18-29	220	49.8	40.3 - 59.2	217	1.9	0.3 - 11.1	218	3.1	0.5 - 17.9
30-44	416	51.8	45.7 - 57.8	418	2.1	1.0 - 4.4	416	0.3	0.1 - 1.0
45-69	812	75.8	71.5 - 79.6	812	4.5	3.1 - 6.5	808	1.1	0.4 - 3.2
Total	1,448	60.7	56.4 - 64.8	1,447	3.0	2.0 - 4.6	1,442	1.5	0.3 - 5.9
Nationality**									
Lebanese	1,150	60.9	56.5 - 65.2	1,148	3.2	1.9 - 5.3	1145	1.4	0.4 - 4.9
Syrian	266	60.0	51.2 - 68.2	268	2.6	1.0 - 6.6	266	1.9	0.3 - 11.7

Age categories (years)	n	% Cigars, cheroots, cigarillos	95% CI	n	% Arguileh	95% CI	n	% Other	95% CI
18-29	218	1.3	0.3 - 5.2	216	57.6	49.0 - 65.8	217	4.0	1.8 - 8.8
30-44	419	1.4	0.6 - 3.2	418	53.7	47.8 - 59.6	419	2.0	1.1 - 3.7
45-69	807	1.6	0.8 - 3.2	808	25.3	21.5 - 29.5	804	1.3	0.5 - 2.9
Total	1,444	1.4	0.8 - 2.4	1,442	43.6	39.7 - 47.6	1,440	2.3	1.4 - 3.8
Nationality**									
Lebanese	1,150	60.9	56.5 - 65.2	1,148	3.2	1.9 - 5.3	1145	1.4	0.4 - 4.9
Syrian	266	60.0	51.2 - 68.2	268	2.6	1.0 - 6.6	266	1.9	0.3 - 11.7

* Responses are not mutually exclusive; respondents could select more than one option.

** Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Daily arguileh consumption averages 0.6 (95% CI: 0.5 – 0.7) sessions per day overall, higher in females (0.8; 95%: 0.7 – 0.9) than males (0.5; 95% CI: 0.4 – 0.6). The mean duration of an arguileh smoking session is approximately 75 minutes overall (79.6 minutes among males; 71.4 minutes among females) (Table 14). As for the number of arguileh heads, a mean of 1.3 arguileh heads (95% CI: 1.3 - 1.4) were consumed per session during the last session.

Table 14: Among arguileh smoking, mean arguileh smoking session duration, in minutes, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean duration of arguileh smoking during last session									
	Male			Female			Total		
Age categories (years)	n	Mean duration	95% CI	n	Mean duration	95% CI	n	Mean duration	95% CI
18-29	46	83.6	53.9 - 113.4	84	75.2	65.7 - 84.7	130	79.0	64.7 - 93.3
30-44	75	78.3	65.9 - 90.7	154	71.6	63.9 - 79.3	229	74.6	67.6 - 81.7
45-69	62	74.6	65.9 - 83.3	121	64.9	56.0 - 73.7	183	69.0	62.9 - 75.2
Total	183	79.6	67.2 - 92.1	359	71.4	65.8 - 77.1	542	75.1	68.4 - 81.7
Nationality*									
Lebanese	134	85.7	70.1 - 101.3	294	73.8	67.6 - 80.0	428	78.9	71.2 - 86.5
Syrian	43	62.8	47.1 - 78.5	59	60.6	48.2 - 73.0	102	61.8	50.2 - 73.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Overall, 22.3% of adults reported arguileh smoking (95% CI: 19.7%-25.2%). Males and females reported similar levels of arguileh use: males: 20.8% (95% CI: 17.1%-25.0%) and females: 23.7% (95% CI: 20.2%-27.6%). Arguileh smoking was similar between Lebanese (22.9% with 95% CI 20.1%-25.9%) and Syrian (20.1% with 95% CI 15.1%-26.3%) participants.

Arguileh smoking was highest among younger adults and declined with age:

- 18–29 years: 27.4% (95% CI: 22.2%-33.3%)
- 30–44 years: 28.5% (95% CI: 24.5%-32.9%)
- 45–69 years: 13.3% (95% CI: 11.2%-15.9%)

Among current smokers, 50.5% consumed two or more types of tobacco products (manufactured cigarettes, hand-rolled cigarettes, pipes, cigars, cheroots, cigarillos and arguileh) (Table 15).

For males, there was no significant difference between age groups and across nationality, while for females, the difference was significant across nationality ($p < 0.001$), and age range (45-69 versus 18-29; $p = 0.008$). For the total sample, no significant difference was found between age groups, while males were significantly more likely to smoke two or more tobacco products ($p < 0.001$).

Table 15: Proportion of current smokers who use two or more tobacco products, by sex, age group, and nationality (STEPS Lebanon, 2024)

Proportion of current smokers who use two or more tobacco products									
	Male			Female			Total		
Age categories (years)	n	Proportion	95% CI	n	Proportion	95% CI	n	Proportion	95% CI
18-29	105	56.3	46.2-65.9	109	37.4	29.9-45.4	214	46.4	39.9-53.0
30-44	188	64.5	58.7-69.9	225	42.4	36.1-48.9	413	53.0	48.6-57.3
45-69	309	55.1	49.3-60.8	488	49.1	44.8-53.4	797	51.9	48.5-55.3
Total	602	58.3	54.1- 62.4	822	43.4	39.3-47.5	1,424	50.5	47.4-53.4
Nationality*									
Lebanese	438	58.3	53.1-63.2	696	47.3	43.0-51.5	1,134	52.3	49.0-55.7
Syrian	150	57.8	49.1-66.1	110	28.4	21.7-36.1	260	43.2	37.6 -49.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.4. Heated tobacco products

Overall, 42.0% of adults (95% CI: 37.7 - 46.3) have heard of heated tobacco products (HTPs). Awareness is higher among males (48.5%; 95% CI: 43.0 - 54.1) than females (36.1%; 95% CI: 31.7 - 40.7) and is more common among Lebanese (46.7%; 95% CI: 42.1 - 51.3) than Syrian participants (27.3%; 95% CI: 20.7 - 35.0).

Amongst those who have ever heard of HTPs but do not currently use them, 12.0% have ever used or tried HTPs in the past, and 1.0% (95% CI: 0.5 - 1.9) use them daily. Ever use is higher among males (14.2%) than females (9.4%) (Table 16).

Table 16: Percentage of participants who ever used heated tobacco products, by sex, age group, and nationality (STEPS Lebanon, 2024)

Ever used HTPs in the past									
	Male			Female			Total		
Age categories (years)	n	% Ever used HTPs	95% CI	n	% Ever used HTPs	95% CI	n	% Ever used HTPs	95% CI
18-29	85	19.2	10.4 - 32.7	98	15.4	9.6 - 23.9	183	17.5	11.5 - 25.6
30-44	125	12.1	6.9 - 20.5	164	7.0	3.2 - 14.8	289	9.8	5.6 - 16.7
45-69	211	10.7	5.7 - 19.1	313	5.4	3.2 - 9.0	524	8.1	5.3 - 12.4
Total	421	14.2	9.2 - 21.3	575	9.4	6.7 - 13.0	996	12.0	8.9 - 16.0
Nationality*									
Lebanese	335	16.3	10.2 - 24.9	495	8.0	5.4 - 11.8	830	12.2	8.6 - 17.0
Syrian	76	7.0	1.7 - 24.3	70	19.1	7.9 - 39.5	146	10.9	4.8 - 22.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among current HTPs users, the reasons reported for using HTPs included “because it comes in flavours they like” (65%; 95% CI: 41.4 – 83), “because they enjoy it” (61.4%; 95% CI: 41.6 – 78), “it’s less harmful than smoking tobacco” (52.4%; 95% CI: 28.7 – 75.1), “to avoid going back to smoking tobacco” (30.6%; 95% CI: 17.0 – 48.7), and “to quit smoking” (24.7%; 95% CI: 11.7 – 44.9). In addition, 30.2% (95% CI: 14.3 – 52.9) reported using HTPs where smoking is not allowed.

3.5. Electronic cigarettes

Overall, 58.3% of adults (95% CI: 54.2 – 62.4) had ever heard of electronic cigarettes. Awareness was higher among males (63.0%; 95% CI: 58.4 – 67.4) than females (54.1%; 95% CI: 49.2 – 58.9) and higher among Lebanese (62.4%; 95% CI: 57.8 – 66.8) than Syrian participants (46.7%; 95% CI: 39.5 – 54.2).

Among those who reported ever hearing of electronic cigarettes, daily use remains low: 1.3% (95% CI: 0.5 – 2.8) reported daily e-cigarette/vape use and 3.6% (95% CI: 2.4 – 5.4) used them less than daily, while 95.0% (95% CI: 92.8 – 96.6) reported no current use. Among non-electronic cigarettes users 13.6% reported ever using/trying e-cigarettes in the past (males 14.4%; 95% CI: 10.3 – 19.7; females 12.7%; 95% CI: 9.4 – 17.0), with the highest levels in the 18–29 group (18.7%; 95% CI: 12.7 – 26.7).

Among current/ever users of e-cigarettes, the reasons cited included “because it comes in flavours they like” (54.5%; 95% CI: 36.4 – 71.5), “because they enjoy it” (51.9%; 95% CI: 35.9 – 67.5), “it’s less harmful than smoking tobacco” (40.3%; 95% CI: 23.5 – 59.7), “to avoid going back to smoking tobacco” (22.9%; 95% CI: 11.7 – 40.0), and “to quit smoking” (30.0%; 95% CI: 14.5 – 52.0). In addition, 36.9% (95% CI: 20.8 – 56.7) reported using e-cigarettes where smoking is not allowed.

3.6. Exposure to second-hand smoke

Exposure to second-hand smoke remains widespread. Overall, in the past 3 days, 76.8% of respondents said they had been exposed to second-hand smoke in a closed area other than home or workplace

(restaurant, other house, car or any closed places they were present in), and this proportion exceeded 80% among younger adults (Table 17). In addition, 70.1% of the population reported that someone smoked in their home in the past 30 days (Table 18). In addition, 58.8% reported exposure second-hand smoke in workplaces (in the building, in a work area or a specific office) in the previous 30 days (Table 19). Exposure in other closed spaces is even more common.

Table 17: Percentage of the sample exposed second-hand smoke in closed areas in the past 3 days, by sex, age group, and nationality (STEPS Lebanon, 2024)

Exposed to second-hand smoke in closed areas in the past 3 days									
	Male			Female			Total		
Age categories (years)	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
18-29	142	83.5	72.9 - 90.4	199	81.2	71.1 - 88.3	341	82.3	74.9 - 87.9
30-44	238	83.9	76.4 - 89.3	399	69.9	60.9 - 77.6	637	77.0	69.6 - 82.9
45-69	414	73.6	66.3 - 79.8	708	69.9	64.1 - 75.2	1,122	71.7	66.3 - 76.5
Total	794	80.1	74.7 - 84.6	1,306	73.5	67.4 - 78.9	2,100	76.8	71.7 - 81.3
Nationality*									
Lebanese	578	83.1	77.2 - 87.7	1,020	75.1	69.0 - 80.3	1,598	78.9	73.9 - 83.2
Syrian	201	72.2	63.1 - 79.8	267	67.3	55.3 - 77.4	468	70.0	60.8 - 77.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 18: Percentage of the sample exposed to second-hand smoke in the home in the past 30 days, by sex, age group, and nationality (STEPS Lebanon, 2024)

Exposed to second-hand smoke in home during the past 30 days									
	Male			Female			Total		
Age categories (years)	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
18-29	173	79.3	71.4 - 85.4	283	76.4	69.1 - 82.5	456	77.8	72.6 - 82.3
30-44	297	70.5	64.2 - 76.2	543	64.2	58.3 - 69.6	840	67.2	62.8 - 71.3
45-69	583	63.8	58.4 - 68.8	1,029	67.7	64.2 - 71.0	1,612	65.9	62.4 - 69.2
Total	1,053	70.8	67.0 - 74.4	1,855	69.4	65.9 - 72.8	2,908	70.1	67.2 - 72.8
Nationality*									
Lebanese	792	68.9	64.4 - 73.2	1,439	69.8	66.1 - 73.2	2,231	69.4	66.2 - 72.4
Syrian	241	76.5	70.2 - 81.8	380	67.5	58.7 - 75.1	621	72.0	66.3 - 77.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 19: Percentage of the sample exposed to second-hand smoke in the workplace in the past 30 days, by sex, age group, and nationality (STEPS Lebanon, 2024)

Exposed to second-hand smoke in the workplace during the past 30 days									
	Male			Female			Total		
Age categories (years)	n	% Exposed	95% CI	n	% Exposed	95% CI	n	% Exposed	95% CI
18-29	147	67.5	56.3 - 77.1	229	59.0	49.4 - 67.9	376	63.2	55.5 - 70.3
30-44	257	70.7	64.5 - 76.3	426	49.0	41.6 - 56.5	683	59.8	54.8 - 64.6
45-69	486	58.9	52.9 - 64.6	823	50.2	44.9 - 55.5	1,309	54.3	49.8 - 58.8
Total	890	65.3	59.9 - 70.3	1,478	52.7	47.7 - 57.6	2,368	58.8	54.6 - 62.9
Nationality*									
Lebanese	685	63.9	58.1 - 69.4	1,164	52.3	47.0 - 57.5	1,849	57.9	53.4 - 62.3
Syrian	186	70.3	61.0 - 78.2	284	53.7	42.7 - 64.4	470	62.3	54.4 - 69.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.7. Smoking cessation

Among current smokers, 24.3% reported that they had tried to stop smoking in the past 12 months (Table 20). Among smokers who had visited a health provider in the past 12 months, 43.8% said they were advised by a doctor or other health worker to quit, with advice increasing with age (Table 21).

Table 20: Percentage of current smokers who have tried to stop smoking during the past 12 months, by sex, age group, and nationality (STEPS Lebanon, 2024)

Current smokers who have tried to stop smoking									
	Male			Female			Total		
Age categories (years)	n	% Tried to stop smoking	95% CI	n	% Tried to stop smoking	95% CI	n	% Tried to stop smoking	95% CI
18-29	110	25.9	17.3 - 36.8	111	19.0	13.1 - 26.8	221	23.0	17.0 - 30.4
30-44	193	25.1	18.2 - 33.6	230	21.4	15.7 - 28.5	423	23.6	18.5 - 29.6
45-69	317	28.6	22.7 - 35.2	499	23.2	18.8 - 28.2	816	25.8	22.0 - 30.1
Total	620	26.6	22.2 - 31.6	840	21.5	18.1 - 25.4	1,460	24.3	21.1 - 27.8
Nationality*									
Lebanese	448	26.8	21.5 - 32.8	707	21.4	17.6 - 25.7	1,155	24.2	20.6 - 28.2
Syrian	158	24.9	16.4 - 35.9	115	20.9	12.6 - 32.7	273	23.6	16.6 - 32.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 21: Percentage of current smokers who visited and have been advised by a doctor or other health worker to stop smoking in the past 12 months, by sex, age group, and nationality (STEPS Lebanon, 2024)

Current smokers who have been advised by doctor to stop smoking									
	Male			Female			Total		
Age categories (years)	n	% Advised to stop smoking	95% CI	n	% Advised to stop smoking	95% CI	n	% Advised to stop smoking	95% CI
18-29	82	35.3	23.7 - 48.9	84	23.7	14.4 - 36.4	166	30.4	22.3 - 39.9
30-44	138	44.3	34.9 - 54.0	168	40.4	31.7 - 49.8	306	42.6	35.5 - 50.0
45-69	253	59.3	50.8 - 67.3	447	48.5	41.7 - 55.3	700	53.6	48.0 - 59.1
Total	473	47.2	41.2 - 53.3	699	39.9	34.5 - 45.6	1,172	43.8	39.1 - 48.5
Nationality*									
Lebanese	352	48.0	40.9 - 55.2	597	39.6	33.8 - 45.7	949	43.8	38.9 - 48.9
Syrian	109	43.8	31.5 - 56.8	86	38.3	26.7 - 51.4	195	41.9	32.7 - 51.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.8. Tobacco policy

The tobacco policy module assesses people's awareness of and exposure to national tobacco-control policies, such as smoke-free laws, advertising bans, health warnings, etc., to understand how effectively these measures are implemented and experienced by the population.

In terms of noticing information in the mass media in the past 30 days about the dangers of smoking or quitting, 39.1% of adults reported noticing information on internet/social media (95% CI: 35.6 – 42.8), while 36.7% noticed in on television (95% CI: 32.4 – 41.2), 16.5% (95% CI: 12.8 – 21.0) reported noticing information in print media, and 11.3% (95% CI: 8.8 – 14.4) on the radio.

In terms of tobacco advertisements, 25.9% (95% CI: 21.7 – 30.5) of adults noticed advertisements promoting cigarettes in points of sale during the past month. In terms of tobacco sales promotion, 8.2% of the sample (95% CI: 6.2 – 10.8) reported exposure to cigarettes at sale/discounted prices, 7.4% reported exposure to free gifts (95% CI: 5.4 – 10.0), 7.1% to free samples (95% CI: 5.3 – 9.5), 6.1% to tobacco-branded items (95% CI: 3.9 – 9.6), 6.1% to coupons for cigarettes (95% CI: 3.6 – 10.2) and 3.8% to promotions by email (95% CI: 2.6 – 5.5).

Regarding health warnings on cigarette packs, 84.3% of respondents noticed them in the past 30 days (Table 22). Importantly, about 1 in 4 smokers (25.8%) thought about quitting because of warning labels (Table 23).

Table 22: Percentage of the sample who noticed any health warnings, by sex, age group, and nationality (STEPS Lebanon, 2024)

Percentage of the sample who noticed any health warnings							
Total							
Age categories (years)	n	% Yes	95% CI	% No	95% CI	% Did not see any cigarette packages	95% CI
18-29	219	86.4	80.2 - 90.8	11.4	7.2 - 17.8	2.2	0.9 - 5.3
30-44	419	83.0	75.4 - 88.6	12.4	7.8 - 19.3	4.6	2.6 - 8.0
45-69	806	83.7	79.6 - 87.1	14.1	10.9 - 18.0	2.2	1.2 - 4.0
Total	1,444	84.3	80.6 - 87.4	12.8	9.9 - 16.3	2.9	1.9 - 4.5
Nationality*							
Lebanese	1,143	85.8	82.5 - 88.6	10.9	8.4 - 14.0	3.3	2.1 - 5.2
Syrian	269	78.0	67.2 - 86.0	20.4	12.9 - 30.8	1.6	0.6 - 4.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 23: Percentage of smokers who thought about quitting because of warning labels, by sex, age group, and nationality (STEPS Lebanon, 2024)

Thought about quitting									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	91	24.2	15.5 - 35.6	81	20.6	12.6 - 31.8	172	22.8	16.4 - 30.8
30-44	161	24.9	17.3 - 34.6	180	20.9	14.3 - 29.4	341	23.3	17.5 - 30.3
45-69	264	31.5	24.7 - 39.3	400	28.4	22.6 - 35.1	664	30.0	25.1 - 35.4
Total	516	27.0	22.0 - 32.7	661	24.1	19.4 - 29.7	1,177	25.8	21.7 - 30.2
Nationality*									
Lebanese	376	24.7	19.6 - 30.7	566	23.2	18.3 - 29.0	942	24.0	20.1 - 28.5
Syrian	129	34.4	23.0 - 47.9	81	33.2	18.3 - 52.4	210	34.1	24.2 - 45.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

The mean monthly expenditure on cigarettes was 2.5 million LBP ($\approx$ 28 USD). The cost of 100 packs represented about 3.15% of annual per-capita GDP, indicating that for many households, tobacco still represents a meaningful economic burden despite the broader economic crisis (Table 24).

Table 24: Price of 100 packs as percent GDP, by sex, age group, and nationality (STEPS Lebanon, 2024)

Cost of 100 packs of manufactured cigarettes as a percentage of per capita Gross Domestic Product (GDP)									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	74	3.60	2.82 - 4.38	40	3.78	1.94 - 5.62	114	3.65	2.89 - 4.41
30-44	110	3.28	2.69 - 3.85	84	3.28	2.72 - 3.85	194	3.27	2.81 - 3.74
45-69	205	2.82	2.47 - 3.16	299	2.65	2.31 - 2.99	504	2.74	2.49 - 2.98
Total	389	3.22	2.81-3.62	423	3.02	2.56-3.49	812	3.15	2.84-3.46
Nationality*									
Lebanese	276	3.21	2.74 - 3.67	362	2.85	2.56 - 3.15	638	3.06	2.75-3.37
Syrian	103	3.16	2.36 - 3.96	52	2.87	2.25 - 3.50	155	3.09	2.44-3.75

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.9. Alcohol consumption

Overall, 16.6% of adults in the survey reported consuming any alcohol in the past 12 months (95% CI: 14.0%–19.5%). Among males, 20.4% (95% CI: 16.5%–25.1%) reported current alcohol use, compared with 13.1% of females (95% CI: 10.5%–16.2%). Among Lebanese adults, 20.5% (95% CI: 17.5%–24.0%) reported any alcohol consumption. In contrast, only 4.0% of Syrians reported the same (95% CI: 2.1%–7.3%). Among participants aged 18-29 years, 13.9% (95% CI: 10.1%–18.9%) reported any alcohol consumption. Prevalence was slightly higher in the 30-44 age group, at 17.0% (95% CI: 13.2%–21.7%). The highest prevalence was observed among adults aged 45-69 years, with 18.4% reporting any alcohol use (95% CI: 15.2%–22.2%). In addition, 81.8% of adults were lifetime abstainers (Table 25).

Table 25: Percentage of alcohol consumption, by age group and nationality (STEPS Lebanon, 2024)

Alcohol consumption status									
Total									
Age categories (years)	n	% Current drinker (past 30 days)	95% CI	% Drank in past 12 months, not current	95% CI	% Past 12 months abstainer	95% CI	% Life-time abstainer	95% CI
18-29	456	10.6	7.2 - 15.4	3.3	1.5 - 7.2	1.2	0.5 - 3.2	84.9	79.8 - 88.9
30-44	840	14.0	10.5 - 18.4	3.0	1.9 - 4.8	1.6	0.6 - 4.4	81.4	76.5 - 85.4
45-69	1,612	15.9	12.8 - 19.6	2.5	1.5 - 4.1	2.1	1.3 - 3.2	79.5	75.7 - 82.8
Total	2,908	13.6	11.4 - 16.3	2.9	2.0 - 4.2	1.7	1.0 - 2.7	81.8	78.9 - 84.3
Nationality*									
Lebanese	2,231	16.9	14.1 - 20.1	3.7	2.5 - 5.2	1.8	1.0 - 3.1	77.7	74.1 - 80.8
Syrian	621	3.3	1.7 - 6.6	0.6	0.2 - 1.9	1.2	0.5 - 2.9	94.9	90.7 - 97.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those who reported drinking, the average number of drinking occasions in the past 30 days was 3.2 occasions (Table 26), with an average of 2.2 drinks per occasion.

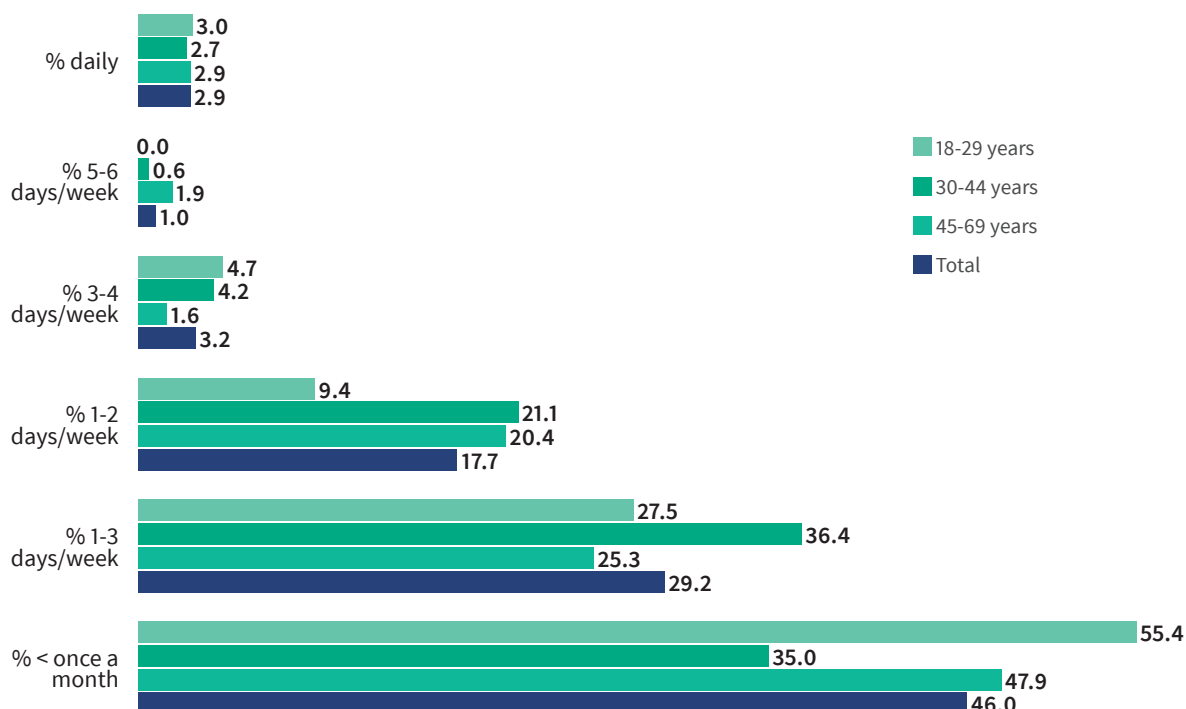
Table 26: Mean number of drinking occasions (at least one drink) in the past 30 days among current drinkers, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean number of drinking occasions in the past 30 days among current drinkers									
	Male			Female			Total		
Age categories (years)	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-29	23	4.6	1.4 - 7.7	15	1.8	1.5 - 2.1	38	3.5	1.4 - 5.6
30-44	40	4.6	2.9 - 6.2	41	2.4	1.6 - 3.2	81	3.8	2.6 - 5.0
45-69	109	3.0	2.3 - 3.8	102	2.2	1.8 - 2.7	211	2.7	2.2 - 3.2
Total	172	3.9	2.8 - 5.0	158	2.2	1.8 - 2.5	330	3.2	2.5 - 3.9
Nationality*									
Lebanese	162	3.9	2.7 - 5.0	148	2.2	1.8 - 2.6	310	3.2	2.5 - 3.9
Syrian	8	-	-	9	-	-	17	2.1	1.5 - 2.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Amongst those who reported drinking alcohol in the past 12 months, 46.0% consumed at least one alcohol drink at a frequency of less than once a month, 29.2% on a monthly basis, and 21.9% on a weekly basis, and 2.9% on a daily basis (Graph 1).

Graph 1: Frequency of alcohol consumption in the past 12 months, by age group (STEPS Lebanon, 2024)



Amongst those who reported drinking alcohol in the past 30 days, 75.3% consumed alcohol at the lower-end level, meaning <40g of pure alcohol on average per occasion among males and <20g of pure alcohol on average per occasion among females (Table 27).

Table 27: Percentage of current drinkers with different drinking levels, by sex, age group, and nationality (STEPS Lebanon, 2024)

Percentage of current (past 30 days) drinkers with different drinking levels*									
Total									
Age categories (years)	n	% high-end level	95% CI	n	% intermediate level	95% CI	n	% lower-end level	95% CI
18-29	40	8.6	2.7 - 24.0	40	20.4	9.2 - 39.4	40	71.0	53.1 - 84.1
30-44	81	2.4	0.8 - 6.8	81	23.9	15.5 - 34.8	81	73.8	61.5 - 83.2
45-69	210	4.7	2.2 - 9.5	210	16.8	10.5 - 25.6	210	78.6	67.6 - 86.6
Total	331	4.9	2.7 - 8.8	331	19.8	14.5 - 26.4	331	75.3	67.9 - 81.4
Nationality**									
Lebanese	311	5.2	2.9 - 9.3	311	19.0	13.6 - 26.0	311	75.8	68.3 - 81.9
Syrian	17	0.0	0.0 - 0.0	17	38.8	18.8 - 63.5	17	61.2	36.5 - 81.2

* A standard drink contains approximately 10g of pure alcohol. The different drinking levels are defined as follows:

- High-end level among current drinkers: ≥ 60 g of pure alcohol on average per occasion among males and ≥ 40 g of pure alcohol on average per occasion among females
- Intermediate level among current drinkers: 40-59.9g of pure alcohol on average per occasion among males and 20-39.9g of pure alcohol on average per occasion among females
- Lower-end level among current drinkers: < 40 g of pure alcohol on average per occasion among males and < 20 g of pure alcohol on average per occasion among females

** Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes

Almost half of the current drinkers (drank in the past 30 days) reported consuming unrecorded alcohol, meaning homebrewed alcohol, alcohol brought across the Lebanese border, alcohol not intended for drinking or other untaxed alcohol, during the past seven days (Table 28).

Table 28: Consumption of unrecorded alcohol, by sex, age group, and nationality (STEPS Lebanon, 2024)

Consumption of unrecorded alcohol*									
	Male			Female			Total		
Age categories (years)	n	% consuming unrecorded alcohol	95% CI	n	% consuming unrecorded alcohol	95% CI	n	% consuming unrecorded alcohol	95% CI
18-29	22	38.5	16.4 - 66.7	10	7.5	1.3 - 33.9	32	30.4	13.4 - 55.1
30-44	34	64.9	42.0 - 82.6	33	42.0	25.0 - 61.1	67	57.0	39.7 - 72.7
45-69	92	55.9	42.6 - 68.4	74	52.5	37.6 - 67.0	166	54.6	43.0 - 65.7
Total	148	54.1	41.3 - 66.3	117	41.1	29.8 - 53.4	265	49.6	39.2 - 60.0
Nationality**									
Lebanese	141	55.5	42.5 - 67.8	112	41.9	30.5 - 54.1	253	50.8	40.4 - 61.1
Syrian	5	-	-	4	-	-	9	-	-

* Unrecorded alcohol consists of homebrewed alcohol, alcohol brought across the Lebanese border, alcohol not intended for drinking or other untaxed alcohol.

** Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Around 1.7% of the total population reported heavy episodic drinking (≥ 6 drinks on one occasion) in the past 30 days. Amongst males aged 18-29 years old in the total sample, this figure was 3.8% (Table 29).

Among participants who consumed alcohol in the past 30 days ($n = 334$), heavy drinking was common among males, with 16.1% (95% CI: 7.8%-30.3%) reporting heavy episodic drinking, compared with 4.6% of females (95% CI: 1.4%-13.9%). By nationality, the proportion was similar between Lebanese (11.6%, 95% CI: 5.9%-21.6%) and non-Lebanese drinkers (10.6%, 95% CI: 1.4%-49.7%), with wide confidence intervals among Syrians due to smaller sample size. In contrast, age differences were pronounced at the descriptive level. Heavy episodic drinking was most common among younger adults: 19.9% of those aged 18-29 (95% CI: 6.9%-45.4%) and 16.2% of those aged 30-44 (95% CI: 5.2%-40.6%). Prevalence dropped sharply in the 45-69-year group, where only 3.3% (95% CI: 1.3%-8.2%) reported heavy drinking.

Table 29: Percentage of the sample who had six or more drinks on a single occasion in the past 30 days, by sex, age group, and nationality (STEPS Lebanon, 2024)

Six or more drinks on a single occasion at least once during the past 30 days among total population									
	Male			Female			Total		
Age categories (years)	n	% ≥ 6 drinks	95% CI	n	% ≥ 6 drinks	95% CI	n	% ≥ 6 drinks	95% CI
18-29	155	3.8	1.2 - 11.3	267	0.9	0.1 - 6.1	422	2.3	0.8 - 6.5
30-44	260	4.6	1.1 - 17.5	503	0.8	0.4 - 1.4	763	2.6	0.8 - 8.0
45-69	481	1.3	0.5 - 3.6	923	0.0	0.0 - 0.0	1404	0.6	0.2 - 1.6
Total	896	3.2	1.5 - 6.5	1,693	0.5	0.2 - 1.6	2,589	1.7	0.9 - 3.3
Nationality*									
Lebanese	644	4.2	1.9 - 8.9	1,288	0.7	0.2 - 2.2	1,932	2.3	1.2 - 4.3
Syrian	234	0.7	0.1 - 4.9	370	0.0	0.0 - 0.0	604	0.4	0.1 - 2.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among individuals who consumed alcohol in the past 12 months:

- 2.2% reported being unable to stop drinking once they started, and this was at least once per month or more often;
- 3.7% reported failing to do what was normally expected from them, at least monthly or more frequently; and
- 3.4% reported needing a morning drink to get going, at least monthly or more frequently.

Detailed results by sex, age, and nationality are presented in the tables 30-32 below.

Table 30: Frequency of not being able to stop drinking once started during the past 12 months among past 12-month drinkers, by sex, age group, and nationality (STEPS Lebanon, 2024)

Being unable to stop drinking once started during the past 12 months among past 12-month drinkers							
Total							
Age categories (years)	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-29	53	1.8	0.2 - 12.1	1.8	0.2 - 12.5	92.8	78.2 - 97.9
30-44	112	1.1	0.2 - 4.5	2.9	0.8 - 9.9	93.5	88.2 - 96.5
45-69	260	3.4	1.4 - 8.1	1.4	0.5 - 3.6	89.6	78.5 - 95.3
Total	425	2.2	1.0 - 4.8	2.0	0.8 - 4.5	91.6	86.3 - 95.0
Nationality*							
Lebanese	398	1.9	0.8 - 4.2	1.8	0.7 - 4.4	92.9	87.9 - 96.0
Syrian	23	9.0	1.2 - 44.8	5.5	0.7 - 32.8	67.8	32.2 - 90.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 31: Frequency of failing to do what was normally expected from you because of drinking during the past 12 months among past 12-month drinkers, by sex, age group, and nationality (STEPS Lebanon, 2024)

Failing to do what was normally expected from you during the past 12 months because of drinking among past 12-month drinkers							
Total							
Age categories (years)	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-29	53	0.0	0.0 - 0.0	5.6	1.6 - 17.7	88.9	73.9 - 95.7
30-44	112	7.3	1.9 - 24.7	0.8	0.1 - 4.4	89.6	76.0 - 95.9
45-69	260	3.5	0.9 - 12.3	0.8	0.3 - 2.3	92.7	84.3 - 96.8
Total	425	3.7	1.3 - 9.9	2.1	0.8 - 5.1	90.7	84.7 - 94.5
Nationality*							
Lebanese	398	3.6	1.2 - 10.1	2.2	0.9 - 5.5	91.5	85.5 - 95.1
Syrian	23	5.5	0.7 - 32.8	0.0	0.0 - 0.0	76.7	36.5 - 95.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 32: Frequency of needing a first drink in the morning to get going after a heavy drinking session during the past 12 months among past 12-month drinkers, by sex, age group, and nationality (STEPS Lebanon, 2024)

Needing a first drink in the morning to get going during the past 12 months among past 12-month drinkers							
Total							
Age categories (years)	n	% monthly or more frequently	95% CI	% less than monthly	95% CI	% never	95% CI
18-29	53	0.0	0.0 - 0.0	0.4	0.0 - 2.6	96.1	79.6 - 99.3
30-44	112	8.1	2.3 - 24.3	2.4	0.7 - 7.7	89.5	75.2 - 96.0
45-69	260	2.3	0.8 - 6.9	0.2	0.0 - 1.6	94.0	86.9 - 97.4
Total	425	3.4	1.3 - 8.7	0.9	0.3 - 2.5	93.2	87.7 - 96.3
Nationality*							
Lebanese	398	3.3	1.2 - 9.1	0.9	0.3 - 2.5	94.2	88.8 - 97.1
Syrian	23	5.5	0.7 - 32.8	0.0	0.0 - 0.0	76.7	36.5 - 95.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Amongst former drinkers (those who did not drink during the past 12 months), 32.5% stopped drinking due to health reasons, such as a negative impact of drinking on your health or as per advice of a doctor or other health worker.

3.10. Diet

3.10.1. Fruits and vegetables consumption

In terms of fruits and vegetables consumption, the indicators included frequency of consumption (average number of days per week fruits and vegetables are consumed) and portion sizes (average servings of fruits and vegetables consumed per day), noting that data was collected during the winter season.

In a typical week, individuals reported consuming fruits on an average of 4.5 days and vegetables on an average of 5.1 days (Tables 33 and 34). In addition, the mean intake was 1.2 servings/day for fruits and 1.3 servings/day for vegetables.

Lebanese participants reported consuming fruits on an average of 4.9 days a week, while Syrians reported consuming fruits on an average of 3.3 days a week. In terms of servings, the difference was similar, with Lebanese consuming 1.3 servings of fruits/day while Syrians reported consuming 0.7 servings of fruits/day.

The frequency and servings of vegetable consumption was similar between Lebanese (5.2 days/week and 1.3 servings/day) and Syrians (5.0 days/week and 1.1 servings/day).

Table 33: Mean number of days per week fruit consumed, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean number of days fruit consumed in a typical week									
	Male			Female			Total		
Age categories (years)	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-29	172	4.4	4.0 - 4.8	281	4.2	3.8 - 4.6	453	4.3	4.0 - 4.6
30-44	291	4.4	4.0 - 4.8	530	4.3	4.0 - 4.6	821	4.4	4.1 - 4.6
45-69	579	4.9	4.7 - 5.2	1,019	4.7	4.5 - 4.9	1,598	4.8	4.7 - 5.0
Total	1,042	4.6	4.4 - 4.8	1,830	4.4	4.2 - 4.7	2,872	4.5	4.4 - 4.7
Nationality*									
Lebanese	788	5.0	4.7 - 5.2	1,427	4.8	4.6 - 5.0	2,215	4.9	4.7 - 5.0
Syrian	234	3.4	3.0 - 3.9	367	3.1	2.7 - 3.5	601	3.3	3.0 - 3.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 34: Mean number of days per week vegetables consumed, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean number of days vegetables consumed in a typical week									
	Male			Female			Total		
Age categories (years)	n	Mean number of days	95% CI	n	Mean number of days	95% CI	n	Mean number of days	95% CI
18-29	172	5.3	4.8 - 5.7	281	5.1	4.8 - 5.4	453	5.2	4.9 - 5.4
30-44	292	4.9	4.6 - 5.2	528	5.1	5.0 - 5.3	820	5.0	4.8 - 5.2
45-69	576	5.2	5.0 - 5.4	1,019	5.1	4.9 - 5.3	1,595	5.1	5.0 - 5.3
Total	1,040	5.1	4.9 - 5.3	1,828	5.1	5.0 - 5.3	2,868	5.1	5.0 - 5.3
Nationality*									
Lebanese	786	5.1	4.9 - 5.3	1,426	5.2	5.0 - 5.3	2,212	5.2	5.0 - 5.3
Syrian	234	5.1	4.6 - 5.5	367	4.9	4.6 - 5.1	601	5.0	4.7 - 5.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

In terms of combined portions of fruits and vegetables, an average of 2.5 servings per day was reported (Table 35). The data indicates that a high percentage of the population consumes less than five servings of fruits and/or vegetables per day, with 90.5% of individuals overall falling below this threshold.

The percentage of Syrians reporting insufficient consumption of fruits and vegetables combined was higher (97.9%) compared to Lebanese (88.4%) (Table 36).

Table 35: Mean number of servings of fruit and/or vegetables on average per day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean number of servings of fruit and/or vegetables on average per day									
	Male			Female			Total		
Age categories (years)	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI	n	Mean number of servings	95% CI
18-29	172	2.5	2.0 - 3.0	281	2.2	1.9 - 2.5	453	2.4	2.1 - 2.6
30-44	292	2.3	2.1 - 2.6	530	2.3	2.1 - 2.4	822	2.3	2.2 - 2.4
45-69	580	2.7	2.5 - 2.9	1,020	2.6	2.4 - 2.8	1,600	2.6	2.5 - 2.8
Total	1,044	2.5	2.3 - 2.7	1,831	2.4	2.2 - 2.5	2,875	2.5	2.3 - 2.6
Nationality*									
Lebanese	790	2.7	2.4 - 2.9	1,428	2.6	2.4 - 2.8	2,218	2.6	2.5 - 2.8
Syrian	234	2.0	1.7 - 2.3	367	1.6	1.5 - 1.8	601	1.8	1.6 - 2.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 36: Percentage of the sample consuming less than five servings of fruit and/or vegetable per day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Less than five servings of fruit and/or vegetables on average per day									
	Male			Female			Total		
Age categories (years)	n	% < five servings per day	95% CI	n	% < five servings per day	95% CI	n	% < five servings per day	95% CI
18-29	172	92.2	83.9 - 96.4	281	91.2	84.8 - 95.1	453	91.7	87.0 - 94.8
30-44	292	93.1	89.2 - 95.6	530	92.6	89.4 - 94.8	822	92.8	90.3 - 94.7
45-69	580	86.8	82.6 - 90.1	1,020	88.7	85.8 - 91.1	1,600	87.8	85.1 - 90.1
Total	1,044	90.4	87.2 - 92.8	1,831	90.6	88.2 - 92.6	2,875	90.5	88.4 - 92.3
Nationality*									
Lebanese	790	88.1	84.2 - 91.2	1,428	88.6	85.6 - 91.0	2,218	88.4	85.8 - 90.5
Syrian	234	97.5	93.5 - 99.0	367	98.3	95.9 - 99.3	601	97.9	95.8 - 98.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.10.2. Salt

Consumption of salt was analyzed in the survey population by asking participants about the frequency, quantity and type of salt used in their household, their cooking habits and their attitude towards dietary salt. Around 36% reported always or often adding salt or salty sauces to their food before or as they were eating (Table 37); while 43.1% add salt during cooking or food preparation (Table 38).

Table 37: Percentage of the sample who always or often add salt or salty sauce to their food before eating or as they are eating, by sex, age group, and nationality (STEPS Lebanon, 2024)

Adding salt always or often before eating or when eating									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	171	43.1	34.1 - 52.6	283	38.6	31.3 - 46.5	454	40.8	34.4 - 47.5
30-44	297	41.4	33.8 - 49.4	542	34.4	28.9 - 40.2	839	37.7	32.5 - 43.3
45-69	579	31.4	26.4 - 36.9	1,026	30.1	25.8 - 34.7	1,605	30.7	27.1 - 34.6
Total	1,047	38.2	33.2 - 43.4	1,851	34.0	30.0 - 38.3	2,898	36.0	32.2 - 40.0
Nationality*									
Lebanese	790	38.3	32.4 - 44.5	1,436	32.5	28.4 - 36.9	2,226	35.2	31.1 - 39.5
Syrian	237	38.6	30.0 - 48.1	379	38.1	29.7 - 47.2	616	38.4	31.2 - 46.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 38: Percentage of the sample who always or often add salt or salty sauce when cooking or preparing foods, by sex, age group, and nationality (STEPS Lebanon, 2024)

Adding salt always or often when cooking or preparing food at home									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	170	50.2	39.4 - 61.0	281	48.5	40.9 - 56.2	451	49.3	42.1 - 56.6
30-44	297	44.4	36.7 - 52.3	541	45.5	40.0 - 51.0	838	45.0	39.7 - 50.3
45-69	576	32.3	27.2 - 37.9	1027	40.0	35.2 - 45.1	1603	36.4	32.5 - 40.6
Total	1,043	41.7	36.1 - 47.4	1,849	44.3	40.0 - 48.8	2,892	43.1	38.9 - 47.3
Nationality*									
Lebanese	785	40.9	34.5 - 47.6	1,436	40.9	36.6 - 45.4	2,221	40.9	36.6 - 45.3
Syrian	238	44.2	33.7 - 55.1	377	55.3	46.1 - 64.0	615	49.7	41.4 - 58.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Around 43.4% always or often consume processed food high in salt (Table 39). A total of 19.4% perceived consuming “far too much” or “too much” salt.

Table 39: Percentage of the sample who always or often eat processed foods high in salt, by sex, age group, and nationality (STEPS Lebanon, 2024)

Consuming processed food high in salt always or often									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	173	56.9	47.7 - 65.7	283	47.7	39.4 - 56.2	456	52.2	45.4 - 58.8
30-44	297	45.9	38.7 - 53.3	543	39.7	33.1 - 46.7	840	42.7	37.0 - 48.5
45-69	580	41.3	34.9 - 48.0	1,027	32.5	27.6 - 37.8	1,607	36.6	31.9 - 41.6
Total	1,050	47.7	42.1 - 53.4	1,853	39.5	34.5 - 44.7	2,903	43.4	38.7 - 48.1
Nationality*									
Lebanese	791	46.8	40.6 - 53.2	1,437	39.2	33.9 - 44.7	2,228	42.7	37.8 - 47.8
Syrian	239	50.7	38.8 - 62.5	380	41.5	32.2 - 51.4	619	46.1	37.0 - 55.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Regarding the importance of lowering salt in the diet, 13.9% reported perceiving lowering salt intake as not at all important (Table 40), compared to 41.8% who considered it very important, and 44.3% who considered it as somewhat important.

Table 40: Percentage of the sample who think lowering salt in diet is important, by sex, age group, and nationality (STEPS Lebanon, 2024)

Importance of lowering salt in diet									
	Male			Female			Total		
Age categories (years)	n	% Not at all important	95% CI	n	% Not at all important	95% CI	n	% Not at all important	95% CI
18-29	170	16.8	11.1 - 24.7	273	14.6	10.0 - 20.7	443	15.7	11.8 - 20.5
30-44	289	17.8	12.5 - 24.7	535	9.6	7.2 - 12.8	824	13.5	10.5 - 17.3
45-69	572	14.9	10.9 - 20.0	1,014	10.7	8.0 - 14.2	1,586	12.7	10.0 - 15.9
Total	1,031	16.4	13.3 - 20.0	1,822	11.6	9.3 - 14.4	2,853	13.9	11.8 - 16.2
Nationality*									
Lebanese	774	15.6	12.2 - 19.8	1,421	11.2	8.8 - 14.1	2,195	13.2	11.0 - 15.8
Syrian	237	18.1	12.6 - 25.4	365	13.6	9.0 - 20.0	602	15.9	11.8 - 21.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

The majority of participants (85.1%) perceived that consuming too much salt could cause a serious health problem. In addition, data showed that the most common salt-reduction strategies are limiting processed foods (55.0%) followed by avoiding foods prepared outside the home (46.2%). Other strategies included replacing salt with spices (43.2%), checking sodium content on food labels (18.0%), and purchasing low-sodium alternatives (12.0%).

Mean intake of salt in grams per day among all population was also computed based on urinary sodium excretion. Details are found in the biochemical section.

3.11. Physical activity

Physical activity in the survey population was assessed based on the amount of time spent in three activity domains: work-related, transport-related, and recreational activities. Work-related includes vigorous-intensity activities performed as part of work that cause large increases in breathing or heart rate. Transport-related physical activity refers to activity undertaken for travel to and from places, excluding work-related activity. Recreational physical activity includes sports, fitness, and leisure activities that increase breathing or heart rate, excluding work- and transport-related activity. Total daily physical activity was calculated by combining all three domains. In addition, sedentary behaviour was assessed as the time spent sitting or reclining during a typical day.

WHO recommends at least 150 minutes of moderate-intensity physical activity per week or equivalent.

Overall, 35.6% of adults did not meet the WHO recommendations for physical activity. Females were less likely to be active than males (43.8% vs. 26.1%) (Table 41). In addition, over one-third of participants (36.2%) reported engagement in occupational physical activity.

Table 41: Percentage of the sample not meeting WHO recommendations on physical activity for health, by sex, age group, and nationality (STEPS Lebanon, 2024)

Not meeting WHO recommendations on physical activity for health									
	Male			Female			Total		
Age categories (years)	n	% not meeting recs	95% CI	n	% not meeting recs	95% CI	n	% not meeting recs	95% CI
18-29	160	21.0	12.9 - 32.2	268	41.9	35.2 - 48.9	428	32.1	25.8 - 39.2
30-44	267	22.1	16.3 - 29.2	510	42.5	36.4 - 48.9	777	33.1	28.3 - 38.4
45-69	545	33.4	27.8 - 39.4	974	46.2	41.1 - 51.5	1519	40.2	36.2 - 44.4
Total	972	26.1	21.8 - 30.9	1,752	43.8	39.7 - 47.9	2,724	35.6	32.0 - 39.4
Nationality*									
Lebanese	742	27.4	22.7 - 32.7	1,361	45.0	40.5 - 49.5	2,103	36.9	32.8 - 41.2
Syrian	211	22.5	14.0 - 34.1	356	41.0	33.1 - 49.4	567	32.0	26.0 - 38.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

According to former recommendations used in the previous 2017 STEPS survey, physical activity levels were grouped as high, moderate, or low, based on total weekly activity:

- High activity reflects very vigorous exercise on at least three days ($\geq 1,500$ MET-minutes) or a large combined weekly activity volume ($\geq 3,000$ MET-minutes).
- Moderate activity includes regular moderate or vigorous activity totalling at least 600 MET-minutes per week but not meeting the high threshold.
- Low activity refers to individuals who do not meet either the high or moderate criteria.

In the current survey, 44.5% of the population was classified as having low physical activity, 17.9% had moderate activity, and 37.7% achieved high activity (Table 42). In terms of sex differences: over half of females (53.6%) fell in the low-activity category, compared to 33.9% of males, while males were more likely to be in the high-activity group (47.5% vs. 29.1% among females). Lebanese participants had a higher share of low activity (46.4%) compared to Syrians (38.7%).

Table 42: Percentage of the sample classified into three categories of total physical activity according to former recommendations, by sex, age group, and nationality (STEPS Lebanon, 2024)

Level of total physical activity according to former recommendations*							
Total							
Age categories (years)	n	% Low	95% CI	% Moderate	95% CI	% High	95% CI
18-29	428	42.5	35.6 - 49.8	17.7	13.4 - 23.1	39.7	33.2 - 46.7
30-44	777	40.4	35.4 - 45.6	16.3	13.1 - 20.2	43.3	38.7 - 48.0
45-69	1519	49.1	44.9 - 53.2	19.1	16.7 - 21.8	31.8	28.2 - 35.7
Total	2724	44.5	40.7 - 48.3	17.9	15.7 - 20.3	37.7	34.4 - 41.0
Nationality**							
Lebanese	2103	46.4	42.3 - 50.6	19.1	16.7 - 21.9	34.5	31.0 - 38.1
Syrian	567	38.7	31.6 - 46.3	12.8	8.6 - 18.7	48.5	40.8 - 56.2

* High activity reflects very vigorous exercise on at least three days ($\geq 1,500$ MET-minutes) or a large combined weekly activity volume ($\geq 3,000$ MET-minutes). Moderate activity includes regular moderate or vigorous activity totalling at least 600 MET-minutes per week but not meeting the high threshold. Low activity refers to individuals who do not meet either the high or moderate criteria.

** Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

On average, adults reported 142.7 minutes of physical activity per day (Table 43). Males were considerably more active than females (196.8 vs. 95.8 minutes/day). By nationality, Syrian participants averaged more daily activity (185.2 minutes) than Lebanese participants (129.9 minutes), reflecting higher engagement in work and transport-related activity.

However, the median minutes of total physical activity among adults were found to be active 60 minutes per day (IQR: 2.1 - 231.4).

Table 43: Mean minutes of total physical activity on average per day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean minutes of total physical activity on average per day									
	Male			Female			Total		
Age categories (years)	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI
18-29	160	199.3	155.2 - 243.4	268	91.2	70.2 - 112.2	428	142.0	114.2 - 169.7
30-44	267	245.2	214.1 - 276.3	510	101.9	86.5 - 117.3	777	167.5	147.6 - 187.4
45-69	545	159.5	136.7 - 182.2	974	95.0	77.6 - 112.5	1,519	125.0	109.8 - 140.2
Total	972	196.8	175.8 - 217.8	1,752	95.8	83.4 - 108.2	2,724	142.7	129.0 - 156.5
Nationality*									
Lebanese	742	176.3	156.3 - 196.2	1,361	90.6	77.6 - 103.5	2,103	129.9	115.9 - 143.9
Syrian	211	264.8	196.2 - 333.5	356	109.3	82.8 - 135.8	567	185.2	145.3 - 225.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Across domains, most activity came from work-related physical activity (population mean 100.3 minutes/day), followed by transport-related activity (32.4 minutes/day) and recreational activity, which remained very low (10.1 minutes/day) (Tables 44-46). Syrians reported more work-related activity than Lebanese in both sexes, while differences in transport were smaller.

It is to note that 56.4% of participants (95% CI: 51.8 - 60.8) were classified as doing no work-related physical activity. Specifically, 59.1% of Lebanese participants (95% CI: 54.4 - 63.6) and 46.3% of Syrian participants (95% CI: 36.7 - 56.2) did not perform any work-related physical activity.

Table 44: Mean minutes of work-related physical activity on average per day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean minutes of work-related physical activity on average per day									
	Male			Female			Total		
Age categories (years)	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI
18-29	160	140.0	100.6 - 179.4	268	62.6	42.0 - 83.1	428	98.9	74.0 - 123.8
30-44	267	184.4	154.5 - 214.3	510	69.8	55.2 - 84.5	777	122.3	103.4 - 141.2
45-69	545	108.4	88.0 - 128.8	974	64.9	49.8 - 80.0	1,519	85.1	72.0 - 98.3
Total	972	140.3	120.7 - 159.8	1,752	65.6	54.0 - 77.2	2,724	100.3	87.5 - 113.1
Nationality*									
Lebanese	742	121.8	103.1 - 140.5	1,361	58.4	47.4 - 69.4	2,103	87.5	75.4 - 99.6
Syrian	211	203.0	138.5 - 267.6	356	88.6	60.6 - 116.7	567	144.4	106.3 - 182.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 45: Mean minutes of transport-related physical activity on average per day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean minutes of transport-related physical activity on average per day									
	Male			Female			Total		
Age categories (years)	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI
18-29	160	40.1	26.8 - 53.4	268	18.5	13.9 - 23.1	428	28.6	21.5 - 35.7
30-44	267	46.5	33.9 - 59.1	510	25.7	17.9 - 33.4	777	35.2	28.2 - 42.2
45-69	545	43.1	34.0 - 52.2	974	24.8	20.1 - 29.5	1,519	33.3	27.7 - 38.9
Total	972	43.1	36.1 - 50.1	1,752	23.0	19.4 - 26.7	2724	32.4	28.0 - 36.7
Nationality*									
Lebanese	742	39.2	32.4 - 46.0	1,361	23.4	19.1 - 27.7	2,103	30.7	26.0 - 35.3
Syrian	211	54.4	38.9 - 69.9	356	19.3	14.9 - 23.7	567	36.4	27.6 - 45.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 46: Mean minutes of recreation-related physical activity on average per day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean minutes of recreation-related physical activity on average per day									
	Male			Female			Total		
Age categories (years)	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI
18-29	160	19.2	11.6 - 26.9	268	10.2	6.0 - 14.4	428	14.4	10.3 - 18.6
30-44	267	14.2	8.7 - 19.8	510	6.4	3.7 - 9.1	777	10.0	7.0 - 13.0
45-69	545	8.0	3.9 - 12.0	974	5.3	3.3 - 7.3	1,519	6.5	4.2 - 8.9
Total	972	13.4	9.8 - 17.0	1,752	7.2	5.5 - 8.9	2,724	10.1	8.1 - 12.1
Nationality*									
Lebanese	742	15.3	11.1 - 19.5	1,361	8.7	6.6 - 10.8	2,103	11.7	9.4 - 14.1
Syrian	211	7.4	2.3 - 12.6	356	1.4	0.5 - 2.3	567	4.3	1.7 - 6.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

In addition, 76.4% of the survey sample did not engage in vigorous physical activity meaning activities that require substantial physical effort and cause rapid breathing and a marked increase in heart rate e.g. running, fast cycling, etc. (Table 47).

Table 47: Percentage of the sample not engaging in vigorous physical activity, by sex, age group, and nationality (STEPS Lebanon, 2024)

Not engaging in vigorous physical activity									
	Male			Female			Total		
Age categories (years)	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI	n	% no vigorous activity	95% CI
18-29	160	54.7	45.1 - 63.9	268	86.5	80.4 - 90.9	428	71.5	65.3 - 77.1
30-44	267	56.1	48.0 - 63.9	510	86.8	82.7 - 90.0	777	72.7	67.9 - 77.1
45-69	545	75.2	69.2 - 80.3	974	90.1	86.7 - 92.7	1,519	83.2	79.5 - 86.3
Total	972	63.1	58.0 - 67.9	1,752	88.0	85.4 - 90.2	2,724	76.4	73.3 - 79.3
Nationality*									
Lebanese	742	65.9	60.6 - 70.8	1,361	86.9	83.8 - 89.5	2,103	77.3	73.9 - 80.3
Syrian	211	52.9	40.7 - 64.7	356	91.8	86.1 - 95.3	567	72.8	65.4 - 79.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Understanding activity levels alone is not sufficient, as sedentary behaviour during daytime carries its own health risks regardless of physical activity. In the survey population, the mean sedentary time was 256.9 minutes, meaning that adults spent about 4 hours and 15 minutes sitting or reclining per day (Table 48).

Table 48: Minutes spent in sedentary activities on a typical day, by sex, age group, and nationality (STEPS Lebanon, 2024)

Minutes spent in sedentary activities on average per day									
	Male			Female			Total		
Age categories (years)	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI	n	Mean min-utes	95% CI
18-29	165	257.9	222.7 - 293.1	277	276.2	245.8 - 306.7	442	267.6	240.6 - 294.5
30-44	282	250.7	226.5 - 274.9	520	226.9	207.0 - 246.8	802	238.1	220.2 - 256.1
45-69	562	273.8	252.4 - 295.2	990	251.9	231.9 - 271.9	1,552	262.1	245.8 - 278.4
Total	1,009	261.9	242.4 - 281.3	1,787	252.5	235.8 - 269.1	2,796	256.9	241.0 - 272.8
Nationality*									
Lebanese	765	263.1	241.4 - 284.8	1,390	255.2	236.4 - 274.0	2,155	258.8	241.3 - 276.4
Syrian	224	256.5	214.4 - 298.5	361	239.8	213.6 - 265.9	585	248.1	216.9 - 279.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.12. Chronic conditions

3.12.1. History of raised blood pressure

Upon asking all respondents if they ever had their blood pressure measured or if they were ever told by a physician or another health worker that they had raised blood pressure, one-third of adults (34.0%) reported never having their blood pressure measured, 43.8% had it measured but were not diagnosed with hypertension, 9.8% had been diagnosed (but not in the last 12 months), and 12.4% were diagnosed within the past 12 months (Table 49). Females were slightly more likely than males to have had their blood pressure measured: 29.9% (95% CI: 26.2 - 33.9) of females had never been measured compared to 38.5% (95% CI: 34.4-42.8) of males. Among males, 12.4% had been diagnosed within the past 12 months, very similar to females (12.3%). By nationality, Syrian adults were less likely to have ever had their blood pressure measured. This is particularly relevant for Syrian males, of which 48.6% (95% CI: 38.2-59.2) have never had their blood pressure measured, as compared to 35.6% (95% CI: 30.9-40.5) of Lebanese males.

Table 49: Blood pressure measurement and diagnosis by age group and nationality (STEPS Lebanon, 2024)

Blood pressure measurement and diagnosis									
Total									
Age categories (years)	n	% never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-29	456	54.5	48.4 - 60.5	39.4	33.6 - 45.6	1.7	0.8 - 3.6	4.3	2.1 - 8.7
30-44	840	34.1	29.3 - 39.3	51.7	46.8 - 56.5	4.8	3.4 - 6.8	9.4	6.9 - 12.8
45-69	1,612	16.7	13.9 - 19.9	41.5	38.1 - 45.0	20.4	17.4 - 23.7	21.4	18.5 - 24.6
Total	2,908	34.0	30.8 - 37.3	43.8	41.1 - 46.7	9.8	8.4 - 11.4	12.4	10.6 - 14.4
Nationality*									
Lebanese	2,231	31.4	28.1 - 34.9	44.5	41.3 - 47.7	10.8	9.2 - 12.8	13.3	11.1 - 15.8
Syrian	621	42.5	35.6 - 49.7	41.8	36.2 - 47.8	6.3	4.3 - 9.2	9.3	6.3 - 13.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those who reported being diagnosed with raised blood pressure, 73.0% were currently taking prescribed antihypertensive medication (Table 50). By nationality, 75.3% of Lebanese respondents reported taking their medications, compared to 58.6% of Syrian respondents.

Table 50: Percentage of respondents currently taking prescribed medications for blood pressure treatment among those previously diagnosed with raised blood pressure, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently taking medication for raised blood pressure prescribed by doctor or health worker among those diagnosed									
	Male			Female			Total		
Age categories (years)	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
18-29	9	-	-	16	14.7	3.8 - 42.8	25	27.5	10.1 - 56.0
30-44	38	70.6	52.3 - 84.0	72	42.6	28.4 - 58.1	110	55.0	40.9 - 68.3
45-69	217	83.1	74.6 - 89.2	455	83.2	78.1 - 87.4	672	83.2	78.8 - 86.9
Total	264	76.0	67.1 - 83.1	543	70.5	62.6 - 77.4	807	73.0	66.8 - 78.5
Nationality*									
Lebanese	215	79.2	71.1 - 85.6	466	72.3	63.5 - 79.7	681	75.3	68.1 - 81.4
Syrian	40	59.4	30.0 - 83.3	68	57.8	40.8 - 73.1	108	58.6	40.8 - 74.4

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those previously diagnosed with raised blood pressure, 8.5% (95% CI: 4.6-14.9) have seen a traditional healer for their blood pressure and 6.8% (95% CI: 4.4-10.3) reported currently taking a herbal or traditional remedy.

3.12.2. History of diabetes

Among the total sample, more than half of adults (57.8%) had never had their blood sugar measured, 30.7% had been tested but were not diagnosed, 5.8% had been diagnosed previously (not in the last 12 months), and 5.6% had been diagnosed with raised blood sugar/diabetes within the past 12 months (Table 51).

Table 51: Blood sugar measurement and diagnosis by age group and nationality (STEPS Lebanon, 2024)

Blood sugar measurement and diagnosis									
Total									
Age categories (years)	n	% never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-29	456	82.7	78.2 - 86.5	15.2	11.8 - 19.4	1.5	0.6 - 3.6	0.6	0.1 - 2.3
30-44	840	60.2	55.3 - 65.0	34.3	29.5 - 39.5	2.5	1.4 - 4.3	2.9	1.7 - 4.9
45-69	1,612	35.2	31.5 - 39.1	40.9	37.1 - 44.8	12.0	9.9 - 14.5	11.9	9.9 - 14.3
Total	2,908	57.8	54.8 - 60.8	30.7	28.0 - 33.6	5.8	4.6 - 7.3	5.6	4.6 - 6.8
Nationality*									
Lebanese	2,231	53.4	50.1 - 56.7	33.2	30.1 - 36.4	6.8	5.3 - 8.6	6.6	5.4 - 8.1
Syrian	621	71.9	65.2 - 77.7	22.7	17.5 - 28.9	2.7	1.6 - 4.5	2.7	1.5 - 4.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those who had been diagnosed with raised blood sugar or diabetes, 81.5% reported taking oral diabetes medication (Table 52). Insulin use among those diagnosed was 16.2% overall (Table 53). When both treatment modalities were considered together (oral agents and/or insulin), 82.2% of participants reporting having diabetes were receiving pharmacological treatment.

Relative to the total survey population (n = 2,908), 9.4% (8.0% - 11.0%) of participants reported being on diabetes treatment.

Table 52: Percentage of respondents currently taking prescribed oral diabetes medication among those previously diagnosed, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently taking medication prescribed for diabetes among those previously diagnosed									
	Male			Female			Total		
Age categories (years)	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
18-29	2	-	-	6	-	-	8	-	-
30-44	15	71.9	35.1 - 92.4	29	38.1	20.8 - 59.0	44	55.0	35.4 - 73.2
45-69	140	87.9	79.4 - 93.2	240	83.3	75.6 - 88.9	380	85.6	80.1 - 89.7
Total	157	86.0	76.6 - 92.0	275	77.3	69.5 - 83.6	432	81.5	75.8 - 86.1
Nationality*									
Lebanese	136	85.9	76.0 - 92.2	245	79.0	70.8 - 85.3	381	82.3	76.3 - 87.0
Syrian	19	86.0	64.6 - 95.4	26	60.6	38.6 - 79.0	45	74.3	58.8 - 85.4

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 53: Percentage of respondents currently taking prescribed insulin among those previously diagnosed with raised blood sugar or diabetes, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently taking medication prescribed for diabetes among those previously diagnosed									
	Male			Female			Total		
Age categories (years)	n	% taking insulin	95% CI	n	% taking insulin	95% CI	n	% taking insulin	95% CI
18-29	2	-	-	6	-	-	8	-	-
30-44	15	9.1	2.5 - 28.4	29	8.3	2.2 - 26.6	44	8.7	3.5 - 20.1
45-69	140	20.8	13.8 - 30.2	240	13.1	8.7 - 19.4	380	16.9	12.4 - 22.7
Total	157	19.8	13.9 - 27.3	275	12.8	8.7 - 18.5	432	16.2	12.2 - 21.1
Nationality*									
Lebanese	136	19.8	13.4 - 28.2	245	13.8	9.3 - 20.1	381	16.7	12.4 - 22.0
Syrian	19	17.6	4.3 - 50.7	26	4.1	0.6 - 22.1	45	11.4	3.4 - 32.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Consultation with traditional healers remained limited (6.8% overall; 95% CI: 3.2-13.6), and a similar proportion (6.7%; 95% CI: 4.2-10.4) reported using herbal or traditional remedies for diabetes.

Indicators on raised blood glucose and impaired fasting blood glucose based on biochemical data collected in Step 3 are reported under a separate section.

3.12.3. History of raised total cholesterol

Among all respondents, two thirds of adults (66.1%) reported never having their blood cholesterol measured, 17.4% had been measured but not diagnosed, 7.9% had been diagnosed previously (not in the last 12 months), and 8.7% had been diagnosed with raised cholesterol in the past 12 months (Table 54). Lebanese adults were more likely to have their cholesterol measured compared to Syrian participants.

Table 54: Total cholesterol measurement and diagnosis among all population, by sex, age group, and nationality (STEPS Lebanon, 2024)

Total cholesterol measurement and diagnosis									
Total									
Age categories (years)	n	% never measured	95% CI	% measured, not diagnosed	95% CI	% diagnosed, but not within past 12 months	95% CI	% diagnosed within past 12 months	95% CI
18-29	456	91.0	87.0 - 93.8	6.9	4.5 - 10.4	1.2	0.4 - 3.5	0.9	0.3 - 3.0
30-44	840	71.9	67.2 - 76.2	18.3	14.4 - 23.0	3.8	2.5 - 5.6	6.0	4.2 - 8.4
45-69	1,612	40.8	36.9 - 44.9	25.5	22.2 - 29.0	16.6	14.1 - 19.4	17.2	14.4 - 20.3
Total	2,908	66.1	63.2 - 68.9	17.4	15.3 - 19.7	7.9	6.6 - 9.4	8.7	7.4 - 10.2
Nationality*									
Lebanese	2,231	60.8	57.5 - 64.0	19.7	17.1 - 22.5	9.4	7.8 - 11.2	10.1	8.6 - 11.9
Syrian	621	83.1	78.7 - 86.8	10.2	7.5 - 13.7	2.9	1.8 - 4.7	3.8	2.3 - 6.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those who reported having been diagnosed with raised cholesterol, about six in ten (60.3%) were taking prescribed lipid-lowering medication. Of those reporting being previously diagnosed with raised total cholesterol, 60.3% reported currently taking oral treatment prescribed for raised total cholesterol (Table 55).

Table 55: Percentage of respondents currently taking prescribed cholesterol medication among those previously diagnosed with raised cholesterol, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently taking oral medication prescribed for raised total cholesterol among those previously diagnosed									
	Male			Female			Total		
Age categories (years)	n	% taking meds	95% CI	n	% taking meds	95% CI	n	% taking meds	95% CI
18-29	5	-	-	6	-	-	11	32.2	10.3 - 66.2
30-44	31	50.3	31.3 - 69.3	34	30.2	15.5 - 50.5	65	41.5	27.9 - 56.5
45-69	189	63.2	54.5 - 71.2	344	68.7	62.3 - 74.4	533	66.1	60.7 - 71.1
Total	225	60.6	52.6 - 68.0	384	60.1	53.9 - 66.0	609	60.3	55.1 - 65.3
Nationality*									
Lebanese	195	61.1	52.5 - 69.1	348	61.1	54.4 - 67.3	543	61.1	55.7 - 66.2
Syrian	24	61.1	40.7 - 78.3	30	47.6	28.3 - 67.7	54	55.4	39.8 - 70.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Of those previously diagnosed with raised blood cholesterol, 5.9% (95% CI: 3.4-10.2) sought advice of a traditional healer and 5.2% (95% CI: 3.0-8.6) reported taking herbal or traditional remedies for raised cholesterol.

3.12.4. History of cardiovascular diseases

Upon asking respondents if they ever experienced a heart attack, angina (chest pain due to a heart disease) or a stroke, 8.5% of participants positively responded (Table 56).

Table 56: Percentage of the sample who have ever had a heart attack or chest pain from heart disease (angina) or a stroke among all population, by sex, age group, and nationality (STEPS Lebanon, 2024)

Having ever had a heart attack or chest pain from heart disease or a stroke									
	Male			Female			Total		
Age categories (years)	n	% CVD history	95% CI	n	% CVD history	95% CI	n	% CVD history	95% CI
18-29	173	4.0	1.4 - 11.2	283	5.7	2.8 - 11.5	456	4.9	2.6 - 9.0
30-44	297	4.9	2.8 - 8.3	543	5.5	3.6 - 8.3	840	5.2	3.6 - 7.5
45-69	583	17.1	13.6 - 21.1	1,029	11.4	9.0 - 14.3	1,612	14.0	11.7 - 16.7
Total	1,053	9.2	7.2 - 11.8	1,855	7.9	6.2 - 9.9	2,908	8.5	7.1 - 10.2
Nationality*									
Lebanese	792	8.7	6.6 - 11.5	1,439	7.9	6.3 - 9.8	2,231	8.3	6.9 - 10.0
Syrian	241	10.0	5.6 - 17.3	380	8.1	4.6 - 13.7	621	9.1	6.1 - 13.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among the total sample, the percentage of respondents currently taking aspirin regularly to prevent or treat heart disease was 14.3% (Table 57). In addition, 11.1% of the total sample reported taking statins regularly to prevent or treat heart disease (Table 58). Lebanese participants were more likely to be taking aspirin (16.2%) or statins (12.9%) as compared to their Syrian counterparts (7.6% and 4.9%, respectively).

Table 57: Percentage of the sample who are currently taking aspirin regularly to prevent or treat heart disease, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently taking aspirin regularly to prevent or treat heart disease									
	Male			Female			Total		
Age categories (years)	n	% taking aspirin	95% CI	n	% taking aspirin	95% CI	n	% taking aspirin	95% CI
18-29	173	1.9	0.6 - 5.9	283	0.3	0.1 - 1.3	456	1.1	0.4 - 2.9
30-44	297	6.5	4.1 - 10.3	543	4.7	2.8 - 7.8	840	5.6	3.9 - 7.9
45-69	583	36.3	31.3 - 41.7	1,029	28.4	25.2 - 31.8	1,612	32.1	28.9 - 35.4
Total	1,053	16.3	13.8 - 19.2	1,855	12.5	10.7 - 14.6	2,908	14.3	12.6 - 16.2
Nationality*									
Lebanese	792	18.0	14.9 - 21.7	1,439	14.6	12.5 - 17.0	2,231	16.2	14.2 - 18.5
Syrian	241	9.6	6.3 - 14.4	380	5.5	3.5 - 8.5	621	7.6	5.5 - 10.4

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 58: Percentage of the sample who are currently taking statins regularly to prevent or treat heart disease, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently taking statins regularly to prevent or treat heart disease									
	Male			Female			Total		
Age categories (years)	n	% taking statins	95% CI	n	% taking statins	95% CI	n	% taking statins	95% CI
18-29	173	0.4	0.0 - 2.5	283	0.2	0.0 - 1.7	456	0.3	0.1 - 1.2
30-44	297	6.6	3.9 - 10.8	543	2.9	1.6 - 5.3	840	4.7	3.1 - 6.9
45-69	583	26.4	21.9 - 31.4	1,029	24.1	20.4 - 28.2	1,612	25.2	22.1 - 28.6
Total	1,053	12.1	9.8 - 14.7	1,855	10.3	8.6 - 12.3	2,908	11.1	9.7 - 12.8
Nationality*									
Lebanese	792	13.9	11.2 - 17.1	1,439	12.1	10.1 - 14.5	2,231	12.9	11.2 - 14.9
Syrian	241	5.7	3.4 - 9.4	380	4.1	2.1 - 7.9	621	4.9	3.1 - 7.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among individuals with a self-reported history of heart attack (n=300), 57.4% (95% CI: 48.7%–65.7%) reported taking aspirin, compared with 10.3% (95% CI: 8.8%–12.0%) among those without a history of heart attack. In addition, 42.6% (95% CI: 34.3%–51.3%) of participants with prior heart attack reported not taking aspirin.

Among individuals with a self-reported history of heart attack (n=300), 43.0% (95% CI: 35.1%–51.2%) reported current statin use, compared with 8.2% (95% CI: 6.8%–9.8%) among those without such a history. In addition, 57.0% (95% CI: 48.8%–64.9%) of participants with prior heart attack reported not taking statin.

3.13. Lifestyle advice

The data provides a detailed overview of lifestyle advice received by individuals from health professionals over the past three years, focusing on various behaviours such as tobacco use, salt intake, fruit and vegetable consumption, fat intake, physical activity, weight management, sugary beverage reduction, and alcohol use. The analysis is broken down by sex, age, and nationality.

Overall, less than half of adults reported being advised in the past three years to improve diet or physical activity:

- 48.6% were told to maintain or lose weight,
- 46.5% to be more physically active,
- 46.1% to reduce fat,
- 46.1% to reduce salt,
- 45.3% to eat at least five servings of fruit/vegetables daily, and
- 40.3% to cut sugary drinks.

Advice on tobacco was given to 37.6% of adults, while alcohol-related advice was the least frequently reported at 11.0% (Table 59).

Males often reported receiving more advice than females on risk behaviours, especially tobacco (46.4% of males vs 31.4% of females) and alcohol (14.2% vs 8.6%). They were also slightly more likely to be told to reduce salt (50.1% vs 43.2%), to be more active (48.0% vs 45.4%), and to cut sugary beverages (41.7% vs 39.4%). Females, however, were marginally more likely than males to receive advice on fruit and vegetable intake (46.5% vs 43.7%), and advice on weight control was almost identical for both sexes (49.2% of males and 48.2% of females).

Across all domains, Lebanese participants were more likely than Syrians to report having received advice. This gap was most pronounced for weight management (52.3% vs 34.7%), sugary drinks reduction (44.0% vs 26.8%), and alcohol (12.4% vs 6.4%). Even for the more routinely delivered counselling, salt reduction (47.8% vs 39.1%), increased physical activity (47.9% vs 40.9%), and tobacco (38.7% vs 33.2%), Lebanese still reported higher exposure to health advice.

Table 59: Percentage of the sample who received lifestyle advice from a doctor or health worker during the past three years, by age group and nationality (STEPS Lebanon, 2024)

		Advised by doctor or health worker to quit using tobacco or don't start	Advised by doctor or health worker to reduce salt in the diet	Advised by doctor or health worker to eat at least five servings of fruit and/or vegetables each day	Advised by doctor or health worker to reduce fat in the diet
		Total		Total	
Age categories (years)	n	% advised	95% CI	% advised	95% CI
18-29	194	25.7	18.3 - 34.8	21.9	15.8 - 29.6
30-44	369	33.8	28.0 - 40.2	41.9	35.5 - 48.6
45-69	971	46.2	41.5 - 51.0	61.6	56.9 - 66.2
Total	1,534	37.6	33.9 - 41.5	46.1	42.3 - 49.8
Nationality*					
Lebanese	1,223	38.7	34.5 - 43.1	47.8	43.7 - 51.9
Syrian	277	33.2	26.4 - 40.9	39.1	31.0 - 47.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

		Advised by doctor or health worker to start or do more physical activity	Advised by doctor or health worker to maintain a healthy body weight or to lose weight	Advised by doctor or health worker to reduce sugary beverages in diet	Advised by doctor or health worker to quit using alcohol or don't start
		Total		Total	
Age categories (years)	n	% advised	95% CI	% advised	95% CI
18-29	194	30.5	22.1 - 40.6	30.8	23.3 - 39.4
30-44	369	48.0	39.5 - 56.5	46.0	40.5 - 51.7
45-69	971	54.3	49.4 - 59.2	59.9	55.1 - 64.4
Total	1,534	46.5	41.6 - 51.4	48.6	44.4 - 52.9
Nationality*					
Lebanese	1,223	47.9	43.1 - 52.8	52.3	47.8 - 56.7
Syrian	277	40.9	29.8 - 53.1	34.7	26.6 - 43.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.14. Cervical cancer screening

The data on cervical cancer screening provides insights into the routine testing behaviour of females, segmented by age and nationality. Among the total sample of 1,773 females, 18.6% reported ever having undergone cervical cancer screening using any of the available methods, including Pap Smear, Visual Inspection with Acetic Acid (VIA), or the Human Papillomavirus (HPV) test (Table 60). Screening uptake increased with age. Lebanese females were more than twice as likely to have been screened compared to Syrian females (21.9% vs 8.4%).

Table 60: Percentage who have ever had a screening test for cervical cancer among all female sample, by age group and nationality (STEPS Lebanon, 2024)

Cervical cancer screening prevalence			
	Female		
Age categories (years)	n	% ever tested	95% CI
18-29	276	2.8	1.5 - 5.0
30-44	522	20.6	16.1 - 25.9
45-69	975	30.5	26.4 - 34.9
Total	1,773	18.6	16.0 - 21.5
Nationality*			
Lebanese	1,373	21.9	19.0 - 25.2
Syrian	366	8.4	4.9 - 14.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among females aged 30–49 years, 21.7% (95% CI: 17.4 - 26.7) reported ever having been tested, with 26.1% Lebanese females (95% CI: 20.8 - 32.2) compared to 12.2% of Syrian females (95% CI: 6.8 - 21.1).

Among those who had ever been screened, 39.7% reported doing the test on a routine basis (e.g. every 5 years) (Table 61).

Table 61: Percentage undergoing routine cervical cancer screening among females who have ever been screened, by age group and nationality (STEPS Lebanon, 2024)

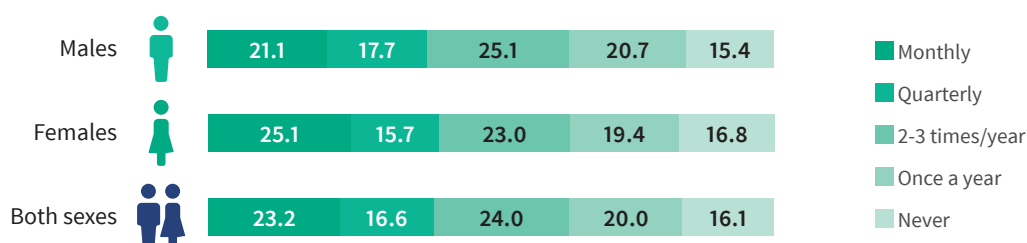
Routine cervical screening test			
	Female		
Age categories (years)	n	%	95% CI
18-29	12	19.4	5.4 - 50.2
30-44	100	41.9	32.5 - 51.9
45-69	280	40.1	32.4 - 48.4
Total	392	39.7	33.6 - 46.2
Nationality*			
Lebanese	354	43.2	36.8 - 49.9
Syrian	38	7.3	2.3 - 21.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.15. Health seeking behaviours

The health seeking behaviours module is an added module to the STEPS survey 2024, specific to Lebanon. Overall, 83.8% of participants reported using health services at least once a year, of which 23.2% (95% CI: 19.5 - 27.4) used health services monthly, 16.6% (95% CI: 14.4 - 19.0) used them quarterly, and 24.0% used them 2–3 times per year (Graph 2). Syrians (26.4%; 95% CI: 19.4 - 34.9) were slightly more likely than Lebanese (22.2%; 95% CI: 18.1 - 26.8) to use health services on a monthly basis.

Graph 2: Frequency of health services use, by sex (STEPS Lebanon, 2024)



Approximately 74.8% (95% CI: 70.5 - 78.6) of respondents reported needing to access health services in the past year. The services that were most frequently needed to be accessed were outpatient consultations (61.7%; 56.4 - 66.7) and pharmaceuticals/medications (50.3%; 95% CI: 43.6 - 57.0), followed by diagnostic services (40.6%; 95% CI: 36.3 - 45.0) and dental care (23.9%; 95% CI: 20.2 - 28.1). Emergency services were sought by 19.9% (95% CI: 16.4 - 24.0) and hospitalizations reported by 10.6% (95% CI: 8.5 - 13.3) of participants.

In terms of nationality differences, for outpatient consultations, Lebanese reported significantly higher need to access (65.7%; 95% CI: 60.4 - 70.7) compared to Syrians (48.9%; 95% CI: 38.1 - 59.8). Additionally, diagnostic services (blood tests, X-rays, MRI...) and hospitalization (including dialysis, chemotherapy, radiology and palliative care) were reported to be needed significantly more by Lebanese (42.3%, 95% CI: 37.7 - 47.0; 11.8%; 95% CI: 9.3 - 14.7, respectively) as compared to Syrians (34.4%; 95% CI: 26.7 - 43.1; 7.5%; 95% CI: 4.2 - 13.0, respectively). On the other hand, maternal and reproductive health services as well as child health services reported being needed to be accessed significantly more for Syrians than Lebanese (Table 62).

Table 62: Frequency of health services reported being needed to be accessed, by age group and nationality (STEPS Lebanon, 2024)

		Maternal health services (antenatal care, delivery, postnatal care)		Reproductive health services (family planning)		Child health services (paediatric visits, child immunizations)	
		Total		Total		Total	
Age categories (years)	n	%	95% CI	%	95% CI	%	95% CI
18-29	323	17.9	12.9 - 24.2	6.9	4.0 - 11.9	21.8	16.8 - 27.7
30-44	553	13.1	9.1 - 18.5	6.3	3.9 - 10.2	34.2	27.8 - 41.2
45-69	1065	3.5	2.0 - 6.1	1.4	0.7 - 2.8	5.1	3.7 - 7.0
Total	1,941	11.1	8.8 - 14.0	4.7	3.2 - 6.9	19.1	16.2 - 22.5
Nationality*							
Lebanese	1,497	7.6	5.6 - 10.2	3.0	2.0 - 4.6	12.3	9.7 - 15.4
Syrian	408	22.9	16.5 - 30.7	10.3	5.7 - 18.0	40.7	34.5 - 47.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Affordability was reported as the most common barrier to access health care, affecting 27.6% (95% CI: 21.8 - 34.4) of individuals. Financial constraints increased with age, reaching 33.7% among adults aged 45–69 years. Additionally, service availability (9.0%; 95% CI: 6.3 - 12.9) was also reported as a barrier.

When participants were asked where they usually seek health care, primary health care centres or dispensaries were the most commonly used (47.2%; 95% CI: 43.6 - 50.9), particularly among Syrians (67.2%; 95% CI: 58.1 - 75.2) compared to Lebanese (41.1%; 95% CI: 37.1 - 45.2). This was even more common among Syrian females (72.9%; 95% CI: 62.8 - 82.1) compared to Lebanese females (42.2%; 95% CI: 37.7 - 46.6). Private health clinics ranked second (20.3%; 95% CI: 17.6 - 23.4), used more by Lebanese (23.3%; 95% CI: 20.1 - 26.7) than Syrians (11.5%; 95% CI: 7.6 - 17.0). Use of private hospitals (14.3%; 95% CI: 12.1 - 16.9) also predominated among Lebanese (17.6%; 95% CI: 14.8 - 20.8) compared to Syrians (3.6%; 95% CI: 1.9 - 6.7). As for public/governmental hospitals, 9.2% (95% CI: 7.7 - 11.1) of the population reported usually seeking health care there, with no notable differences between Lebanese and Syrians. Specialized centres (1.9%; 95% CI: 1.3 - 2.8) and home care (0.3%; 95% CI: 0.1 - 1.0) were rarely used.

When asked about preference on where to seek medications, local private pharmacies were the preferred source for 58.6% (95% CI: 54.7 - 62.3) of participants, with differences between Lebanese (62.2%; 95% CI: 58.0 - 66.3) and Syrians (46.8%; 95% CI: 38.2 - 55.7). Primary health care centres or dispensaries were the second preferred source (33.9%; 95% CI: 30.1 - 37.8), with differences between Syrians (46.7%; 95% CI: 38.5 - 55.0) and Lebanese (30.3%; 95% CI: 26.3 - 34.6).

Interruptions in chronic medication use over the past year were reported by 21.0% of respondents, rising to 31.7% among those aged 45–69 years. Interruptions were more frequent among Lebanese (22.2%) than Syrians (16.9%) (Table 63). The main reason for interruption was the lack of availability of medications in the market or PHC centres (77.5%; 95% CI: 72.8 - 81.7), especially among Lebanese (81.2%; 95% CI: 76.1 - 85.4) compared to Syrians (64.9%; 95% CI: 51.8 - 76.1). Another reason for interruption was affordability (20.4%; 95% CI: 16.5 - 25.1), more commonly cited by Syrians (34.5%; 95% CI: 23.4 - 47.6) compared to Lebanese (16.4%; 95% CI: 12.7 - 21.0). In terms of coping strategies aiming at resuming their medications, 56.7% (95% CI: 51.1 - 62.2) of those reporting interruptions switched to generic substitutes, with differences between Lebanese (63.1%; 95% CI: 57.3 - 68.5) and Syrians (32.0%; 95% CI: 21.0 - 45.5). This was followed by stopping medications reported by 28.2% (95% CI: 22.7 - 34.3) among those reporting interruptions, obtaining the medications from abroad (19.0%; 95% CI: 15.4 - 23.2), and reducing dosage (7.6%; 95% CI: 4.8 - 11.8) or borrowing money to afford medications (3.3%; 95% CI: 1.8 - 5.8).

Table 63: Chronic medication interruption in the past 12 months, by age group and nationality (STEPS Lebanon, 2024)

Chronic medication interruption in the past 12 months							
Total							
Age categories (years)	n	% Yes	95% CI	% No	95% CI	% I don't take NCD medications	95% CI
18-29	454	13.9	10.1 - 18.8	40.4	33.1 - 48.3	45.7	38.1 - 53.5
30-44	837	14.8	12.0 - 18.0	43.1	36.9 - 49.5	42.1	36.2 - 48.3
45-69	1,600	31.7	28.0 - 35.6	47.8	43.7 - 51.9	20.5	17.4 - 24.0
Total	2,891	21.0	18.7 - 23.5	44.0	39.6 - 48.6	35.0	30.7 - 39.5
Nationality*							
Lebanese	2,216	22.2	19.4 - 25.2	45.5	40.7 - 50.3	32.3	27.9 - 37.1
Syrian	619	16.9	13.0 - 21.7	38.5	30.5 - 47.1	44.7	36.5 - 53.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

When asked about having a health insurance, 63.0% of the population reported being uninsured. Table 64 details insurance coverage by sex, age, and nationality.

The main types of insurance were the National Social Security Fund (26.5%; 95% CI: 22.7 – 30.6), army/military schemes (22.6%; 95% CI: 18.7 – 27.0), and private local insurance (21.8%; 95% CI: 16.9 – 27.6). Among Syrians, UN agency coverage (75.0%; 95% CI: 60.1 – 85.6) was the main reported source of coverage.

Table 64: Percentage of the sample who has health insurance, by sex, age group, and nationality (STEPS Lebanon, 2024)

Have health insurance									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	173	32.2	22.6 - 43.6	283	29.4	22.9 - 36.9	456	30.8	24.3 - 38.1
30-44	297	43.8	36.5 - 51.4	543	33.0	28.0 - 38.4	840	38.2	33.6 - 43.0
45-69	583	44.4	39.4 - 49.5	1,029	38.7	34.5 - 43.1	1,612	41.4	37.5 - 45.3
Total	1,053	40.3	35.4 - 45.3	1,855	34.1	30.4 - 38.0	2,908	37.0	33.6 - 40.6
Nationality*									
Lebanese	792	44.9	39.0 - 50.9	1439	37.7	33.6 - 42.1	2,231	41.1	36.9 - 45.3
Syrian	241	24.3	17.3 - 32.9	380	21.4	14.4 - 30.5	621	22.8	17.0 - 29.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Regarding health expenditures, 13.8% (95% CI: 11.3 - 16.7) of households spent less than 1 million LBP (≈11 USD), 25.6% (95% CI: 22.7 – 28.7) spent between 1–5 million LBP (≈11–56 USD), 19.0% (95% CI: 16.7 – 21.6) spent between 5–10 million LBP (≈56–112 USD) in the past three months, and 2.6% (95% CI: 1.8 – 3.7) spent 150 million LBP or more (≈1,675 USD). Expenditures tended to rise with age and Lebanese households reported slightly higher spending at upper ranges than Syrian households.

3.16. Mental health

3.16.1. Depression

The percentage of population with depression was calculated using the depression module included in the STEPS 2024 survey. Participants were first asked whether, within the last 12 months, they had experienced at least two weeks of persistent low mood and/or loss of interest or pleasure. Those who screened positive were then asked a series of symptom questions referring to the period when these symptoms were at their worst, covering concentration difficulties, feelings of worthlessness or hopelessness, suicidal thoughts, sleep and appetite changes, low energy, and psychomotor changes. Finally, functional impairment was assessed. Respondents who reported at least one of the two core symptoms (low mood or loss of interest) plus additional depressive symptoms with associated functional impairment were classified as having depression. The prevalence represents the percentage of adults meeting these criteria within the past 12 months.

Overall, 25.8% of adults reported symptoms consistent with depression over the past 12 months. Females were more affected than males (29.9% vs. 21.1%), and Syrians reported a higher burden than Lebanese (32.3% vs. 23.9%) (Table 65).

Table 65: Percentage of the sample with depression, by sex, age group, and nationality (STEPS Lebanon, 2024)

Percentage of the sample with depression									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	173	22.3	14.0 - 33.8	282	30.5	24.1 - 37.8	455	26.6	21.1 - 32.9
30-44	296	24.3	18.5 - 31.2	543	32.9	27.7 - 38.6	839	28.8	24.5 - 33.6
45-69	582	17.5	13.3 - 22.7	1,027	27.2	23.4 - 31.5	1,609	22.7	19.3 - 26.5
Total	1,051	21.1	17.2 - 25.7	1,852	29.9	26.3 - 33.9	2,903	25.8	22.6 - 29.2
Nationality*									
Lebanese	792	18.4	13.9 - 23.8	1,437	28.7	24.8 - 32.9	2,229	23.9	20.4 - 27.7
Syrian	240	30.2	22.7 - 38.9	379	34.5	27.7 - 42.1	619	32.3	26.5 - 38.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Most people with depression were not on medication, notably 82.5% did not take medication in the past 12 months (Table 66). The proportion of participants on medications for depression was 17.5% (95% CI: 13.8% - 21.9%) for both sexes. Among males, the proportion was 12.6% (95% CI: 7.5% - 20.4%); whereas, among females it was 20.6% (95% CI: 15.7% - 26.6%).

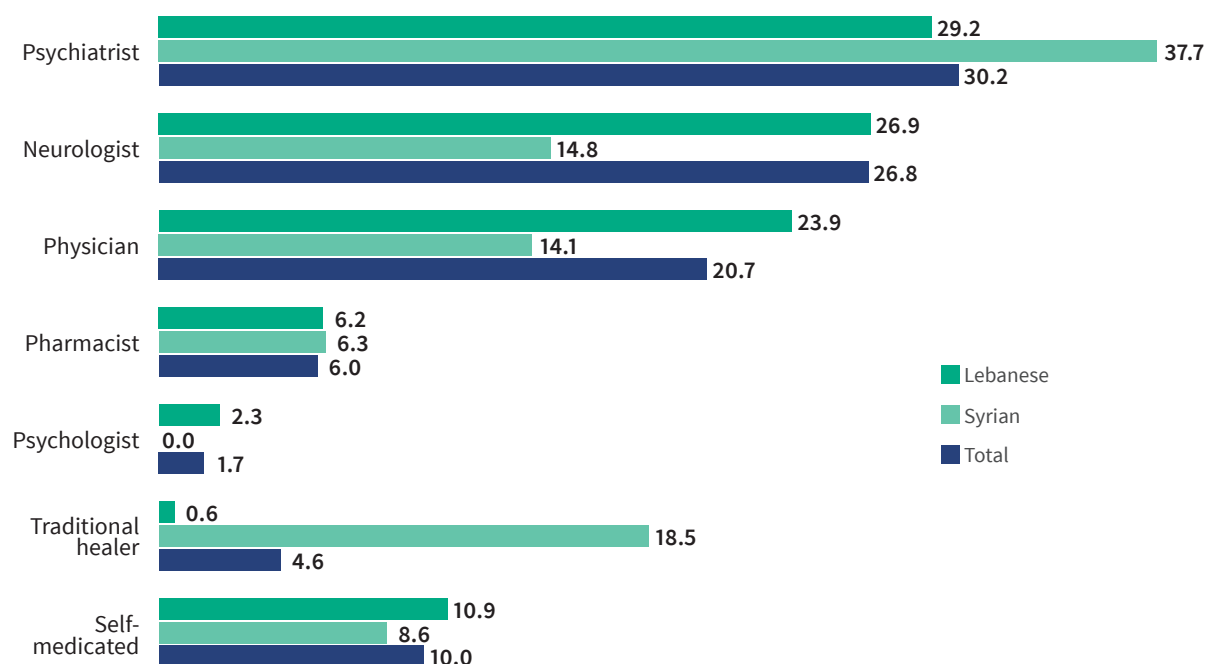
Table 66: Frequency of depression medication among those with depression, by sex, age group, and nationality (STEPS Lebanon, 2024)

Frequency of medication for depression							
Total							
Age categories (years)	n	% Yes, for less than 3 months	95% CI	% Yes, for 3 months or more	95% CI	% No	95% CI
18-29	123	9.5	4.4 - 19.2	1.8	0.5 - 6.4	88.8	79.2 - 94.2
30-44	243	8.9	5.4 - 14.4	8.1	4.4 - 14.4	83.0	75.6 - 88.5
45-69	369	9.1	5.7 - 14.4	15.0	11.1 - 19.9	75.9	69.7 - 81.1
Total	735	9.2	6.4 - 13.0	8.3	6.1 - 11.3	82.5	78.1 - 86.2
Nationality*							
Lebanese	547	8.4	5.6 - 12.4	10.0	7.1 - 13.8	81.6	76.5 - 85.8
Syrian	178	9.3	4.3 - 19.1	4.4	1.9 - 9.8	86.3	76.2 - 92.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those who received medication, prescribing was mainly done by psychiatrists (30.2%; 95% CI: 20.8 - 41.6) and neurologists (26.8%; 95% CI: 17.4 - 38.9), followed by other physicians (20.7%; 95% CI: 13.4 - 30.6). Notably, pharmacists prescribed in 6.0% (95% CI: 2.9 - 11.8) of cases, psychologists in 1.7% (95% CI: 0.3 - 8.4), and traditional healers in 4.6% (95% CI: 0.7 - 23.8), while 10.0% (95% CI: 5.2 - 18.4) reported self-medication (Graph 3). Even though these latter providers are not standard prescribers, their involvement remains important to document, as it indicates recourse to informal or non-specialized channels for mental health care.

Graph 3: Source of antidepressant prescriptions, by nationality (STEPS Lebanon, 2024)



As for therapy or counselling, it also remains limited: in the past 12 months, 92.7% of people with depression did not receive therapy/counselling sessions (Table 67).

Table 67: Frequency of psychological therapy/counselling for depression, by sex, age group, and nationality (STEPS Lebanon, 2024)

Frequency of therapy/counselling for depression							
Total							
Age categories (years)	n	% Yes, 1 to 3 sessions	95% CI	% Yes, 4 sessions or more	95% CI	% No	95% CI
18-29	123	3.5	1.1 - 10.7	3.9	1.4 - 10.1	92.6	84.6 - 96.6
30-44	244	4.3	2.0 - 9.1	4.3	1.7 - 10.5	91.5	84.0 - 95.6
45-69	371	2.3	1.1 - 4.6	3.6	1.8 - 7.3	94.1	90.3 - 96.5
Total	738	3.4	2.0 - 5.7	3.9	2.3 - 6.6	92.7	89.2 - 95.2
Nationality*							
Lebanese	548	2.9	1.7 - 5.2	3.8	1.9 - 7.4	93.3	89.5 - 95.7
Syrian	179	3.9	1.1 - 12.5	4.3	1.5 - 12.0	91.8	82.8 - 96.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Overall, the proportion of participants who reported receiving treatment for depression (either prescribed medication or counselling) was 18.8% (95% CI: 14.9%–23.4%). Treatment uptake varied notably by sex. Among males, 12.7% (95% CI: 7.5%–20.6%) were receiving treatment. In contrast, 22.7% of females (95% CI: 17.5%–28.9%) reported being on treatment. The difference among sex is statistically significant ($p=0.036$) even after correcting for age.

3.16.2. Suicide

The survey shows that 2.7% of adults reported seriously considering attempting suicide in the past 12 months. This was higher among Syrians (3.8%) than Lebanese (2.4%). Syrians reported more suicidal thinking than Lebanese in both sexes (Table 68). Among those who considered attempting suicide, 1 in 4 (25.1%; 95% CI: 13.5 - 41.8) sought professional help.

Table 68: Percentage of the sample who considered attempting suicide during the past 12 months, by sex, age group, and nationality (STEPS Lebanon, 2024)

Considered attempting suicide									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	171	2.5	0.8 - 7.3	283	2.4	0.9 - 5.9	454	2.4	1.2 - 4.9
30-44	293	3.1	1.2 - 7.5	538	3.2	1.5 - 6.7	831	3.1	1.8 - 5.5
45-69	574	1.6	0.6 - 4.0	1,011	3.7	2.4 - 5.7	1,585	2.7	1.8 - 4.0
Total	1,038	2.3	1.3 - 4.0	1,832	3.1	2.1 - 4.6	2,870	2.7	2.0 - 3.8
Nationality*									
Lebanese	779	1.6	0.7 - 3.4	1,417	3.1	2.0 - 4.8	2,196	2.4	1.6 - 3.5
Syrian	239	4.2	1.7 - 10.0	379	3.3	1.8 - 6.1	618	3.8	2.1 - 6.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

In terms of suicide planning, among the whole sample, 1.5% of adults reported having made a plan for suicide in the past 12 months, higher among females (2.0%) than males (1.0%) (Table 69).

Table 69: Percentage of the sample who made a plan for suicide during past 12 months, by sex, age group, and nationality (STEPS Lebanon, 2024)

Made a plan for suicide									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	171	1.7	0.4 - 7.2	283	2.4	0.7 - 7.5	454	2.1	0.8 - 5.1
30-44	291	1.2	0.4 - 3.3	539	1.7	0.8 - 3.6	830	1.5	0.8 - 2.7
45-69	575	0.2	0.0 - 0.6	1,013	2.0	1.0 - 3.9	1,588	1.1	0.6 - 2.2
Total	1,037	1.0	0.4 - 2.5	1,835	2.0	1.2 - 3.3	2,872	1.5	1.0 - 2.4
Nationality*									
Lebanese	778	0.6	0.2 - 1.6	1,420	2.1	1.2 - 3.8	2,198	1.4	0.8 - 2.3
Syrian	239	2.2	0.4 - 9.9	379	1.9	0.8 - 4.6	618	2.0	0.8 - 5.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Across the whole sample, 2.8% reported ever attempting suicide. This was slightly higher among females compared to males and higher for Syrians compared to Lebanese (Table 70).

Among those who ever attempted suicide, about half (51.2%; 95% CI: 26.0 - 75.8) reported attempting suicide in the past 12 months.

Table 70: Percentage of the sample who ever attempted suicide, by sex, age group, and nationality (STEPS Lebanon, 2024)

Ever attempted suicide									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	172	3.3	1.2 - 9.0	283	3.9	1.3 - 11.5	455	3.6	1.5 - 8.6
30-44	293	3.1	1.2 - 7.6	533	4.7	2.3 - 9.4	826	3.9	1.9 - 8.0
45-69	575	1.5	0.4 - 5.3	1,013	1.1	0.5 - 2.5	1,588	1.3	0.6 - 2.8
Total	1,040	2.6	1.1 - 5.7	1,829	3.1	1.5 - 6.3	2,869	2.8	1.4 - 5.6
Nationality*									
Lebanese	782	1.5	0.6 - 3.5	1,415	2.7	1.4 - 5.2	2,197	2.1	1.3 - 3.5
Syrian	238	6.1	1.8 - 18.6	379	4.6	1.6 - 12.3	617	5.3	1.9 - 14.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those who attempted suicide in the past 12 months, 25.1% sought medical care (Table 71).

Table 71: Percentage who sought medical care after suicide attempt in the past 12 months, by sex, age group, and nationality (STEPS Lebanon, 2024)

Sought medical care									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	4	-	-	7	-	-	11	44.1	20.0 - 71.4
30-44	7	-	-	26	13.7	3.2 - 43.2	33	19.2	5.3 - 50.2
45-69	11	0.0	0.0 - 0.0	23	15.0	4.8 - 38.1	34	7.7	2.5 - 21.1
Total	22	27.6	8.8 - 60.1	56	23.3	14.0 - 36.3	78	25.1	14.5 - 39.9
Nationality*									
Lebanese	15	32.3	10.0 - 67.1	45	32.8	19.5 - 49.6	60	32.6	19.9 - 48.6
Syrian	7	-	-	10	0.0	0.0 - 0.0	17	13.4	1.4 - 63.4

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

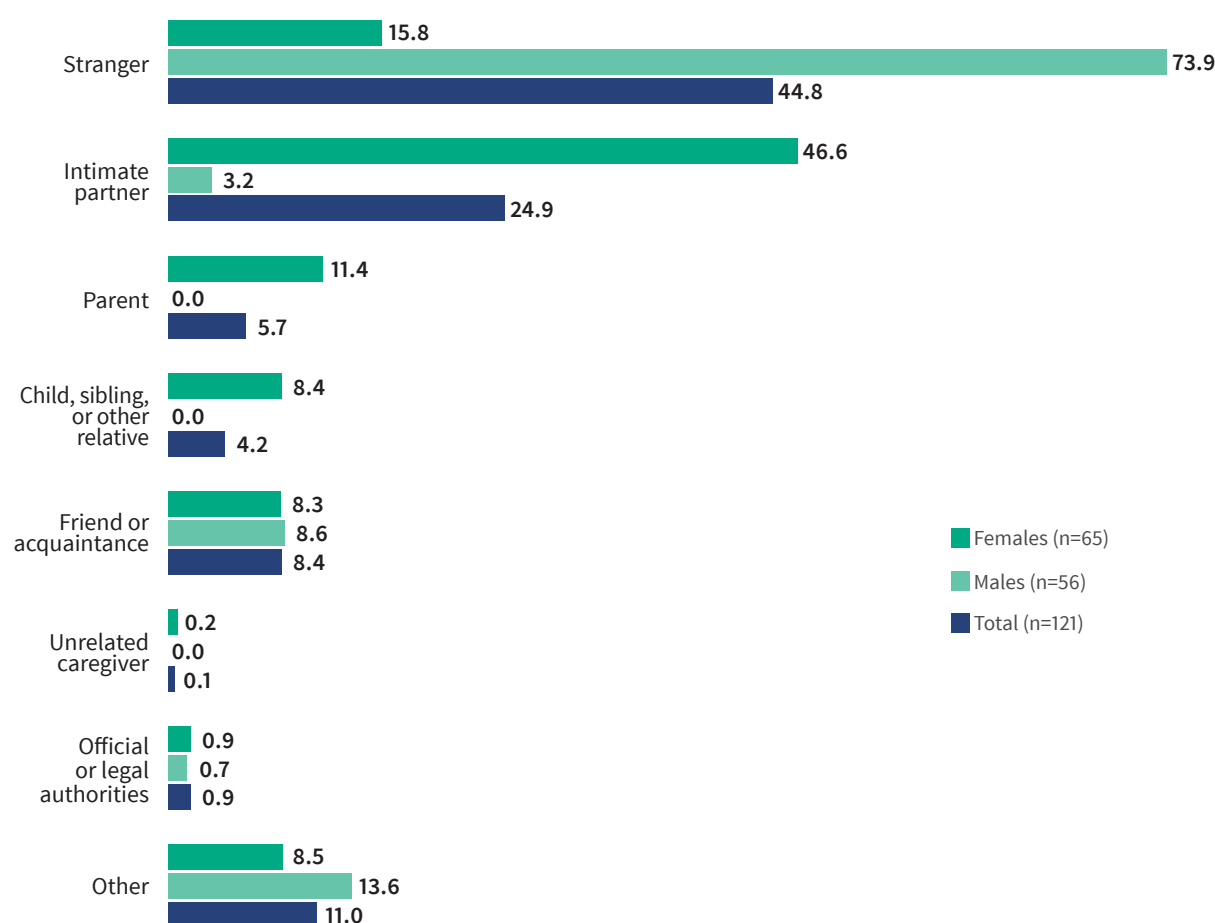
3.17. Violence and injury

In the past 12 months, around 5.4% of the total sample reported being injured in a violent incident that required medical attention; less than 1% (95% CI: 0.5 - 1.6) at a rate of 6 or more times, 1.1% (95% CI: 0.6 - 2.2) sometimes (3–5 times), and 3.3% (95% CI: 2.2 - 4.9) rarely (1–2 times), while the vast majority (94.6%; 95% CI: 92.3 - 96.3) did not experience any such incident requiring medical attention. Sex differences exist among those who got injured 6 or more times, with 0.4% (95% CI: 0.1-1.1) for males versus 1.4% (95% CI: 0.7-2.5) for females. Nationality differences also exist where 2.9% (95% CI: 0.9-8.7) of Syrian females reported being injured 6 or more times in the past 12 months compared to 1% (95% CI: 0.5-1.9) of Lebanese females and 1% (95% CI: 0.3-3.9) of Syrian males reported being injured 6 or more times in the past 12 months compared to 0.2% (95% CI: 0.1-0.9) of Lebanese males.

When a violent injury did occur, most cases were due to non-weapon assaults such as slapping or pushing (62.0%; 95% CI: 38.9 - 80.7), followed by firearm-related injuries (25.8%; 95% CI: 13.7 - 43.2) and injuries caused with other weapons (12.3%; 95% CI: 5.1 - 26.8). Lebanese males more frequently reported firearm-related injuries, while Syrians reported a higher share of injuries caused by other weapons.

The relationship with the perpetrator differed sharply by sex. Among injured females, nearly half (46.6%; 95% CI: 31.8 - 62.0) identified an intimate partner as the source of injury, with this proportion even higher among Syrian females (Graph 4), pointing to intimate-partner and household-level violence as key drivers. Among injured males, most incidents were attributed to strangers (about three quarters).

Graph 4: Relationship with person who caused injury, by sex (STEPS Lebanon, 2024)



The percentage of the sample frightened for their safety was around 6.7% (95% CI: 5.2 - 8.6) in the past 12 months because of someone's anger or threats, with Syrians reporting this more than Lebanese (9.9%; 95% CI: 6.2-15.4 vs. 5.8%; 95% CI: 4.2-7.9). Strangers were the most frequently mentioned source of fear (37.5%; 95% CI: 25.5-51.2), followed by intimate partners (10.3%; 95% CI: 5.4-18.8).

In terms of carrying loaded firearms outside the home, 2.6% of the total sample reported carrying a loaded firearm for protection (Table 72).

Table 72: Percentage of the sample who carried a loaded firearm in the past 30 days, by age group and nationality (STEPS Lebanon, 2024)

Carried a loaded firearm									
Total									
Age categories (years)	n	% No	95% CI	% Yes, for protection	95% CI	% Yes, for work	95% CI	% Yes, for sport (e.g. hunting target practice)	95% CI
18-29	453	95.9	93.7 - 97.4	2.4	1.3 - 4.5	0.7	0.2 - 2.4	1.0	0.3 - 2.9
30-44	833	93.9	91.4 - 95.7	2.7	1.7 - 4.5	2.5	1.4 - 4.4	0.8	0.3 - 2.5
45-69	1,602	94.8	92.7 - 96.4	2.7	1.7 - 4.3	0.6	0.2 - 1.3	1.9	1.0 - 3.5
Total	2,888	94.9	93.6 - 96.0	2.6	1.9 - 3.6	1.2	0.7 - 1.9	1.3	0.8 - 2.1
Nationality*									
Lebanese	2,214	93.8	92.1 - 95.2	3.2	2.3 - 4.6	1.4	0.9 - 2.3	1.5	0.9 - 2.6
Syrian	618	98.6	96.9 - 99.4	0.5	0.2 - 1.6	0.4	0.1 - 2.2	0.4	0.1 - 1.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.18. Physical measurements

3.18.1. Blood pressure

The mean systolic blood pressure (SBP) in the total population was 125.9 mmHg (95% CI: 124.8 - 127.0), while the mean diastolic blood pressure (DBP) was 79.0 mmHg (95% CI: 78.3-79.7). As expected, both measures increased progressively with age and were slightly higher among males than females.

Upon the measurement of blood pressure for respondents who agreed to participate in STEP 2 of the survey, combined with asking them if they were currently on medication for raised blood pressure, 34.0% of respondents had raised blood pressure (defined as systolic blood pressure [SBP] ≥ 140 and/or Diastolic Blood Pressure [DBP] ≥ 90 mmHg) (Table 73). In addition, the percentage of those with a SBP of ≥ 160 mmHg and/or a DBP of ≥ 100 mmHg, or taking medication for raised blood pressure was 19.8% of the total sample (Table 74).

Table 73: Percentage of the sample with raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg) or currently on medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised blood pressure									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	168	14.8	9.3 - 22.6	278	11.2	7.6 - 16.1	446	12.9	9.4 - 17.4
30-44	290	28.1	22.9 - 34.0	537	19.3	15.9 - 23.4	827	23.5	20.5 - 26.7
45-69	562	60.1	55.3 - 64.8	1,017	59.2	55.0 - 63.2	1,579	59.6	56.2 - 62.9
Total	1,020	35.9	32.1 - 39.8	1,832	32.3	29.4 - 35.3	2,852	34.0	31.5 - 36.5
Nationality*									
Lebanese	768	38.0	33.6 - 42.6	1,421	35.1	31.9 - 38.4	2,189	36.4	33.4 - 39.5
Syrian	234	27.6	20.6 - 36.0	378	22.9	17.7 - 29.2	612	25.3	21.0 - 30.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 74: Percentage of the sample with raised blood pressure (SBP ≥ 160 and/or DBP ≥ 100 mmHg) or currently on medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

SBP ≥ 160 and/or DBP ≥ 100 mmHg or currently on medication for raised blood pressure									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	168	2.8	0.8 - 9.0	278	3.1	1.2 - 7.7	446	3.0	1.4 - 6.1
30-44	290	12.9	9.1 - 17.8	537	8.2	6.0 - 11.1	827	10.4	8.3 - 13.0
45-69	562	39.8	35.2 - 44.5	1,017	42.4	38.4 - 46.5	1,579	41.2	37.8 - 44.6
Total	1,020	19.7	16.8 - 23.1	1,832	19.9	17.5 - 22.7	2,852	19.8	17.8 - 22.0
Nationality*									
Lebanese	768	21.1	17.6 - 25.0	1,421	22.3	19.5 - 25.4	2,189	21.7	19.3 - 24.4
Syrian	234	14.2	9.2 - 21.4	378	11.9	8.3 - 16.9	612	13.1	9.7 - 17.4

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

In terms of blood pressure treatment and control, 46.3% of the population with raised blood pressure have not been previously diagnosed (Table 75). Among those who have raised blood pressure, 52.5% are not on medication and 50.3% are on medication but have not achieved control, and 23.6% of those with raised blood pressure (have been diagnosed, or on medication, or elevated measurement of blood pressure) have controlled their blood pressure (Tables 76 and 77).

Table 75: Raised blood pressure diagnosis among those with raised blood pressure (SBP $\geq$ 140 and/or DBP $\geq$ 90 mmHg) or on medication for raised blood pressure, by sex, age group, and nationality (STEPS Lebanon, 2024)

Raised blood pressure diagnosis among those with raised blood pressure (SBP $\geq$ 140 and/or DBP $\geq$ 90 mmHg) or on medication for raised blood pressure									
	Male			Female			Total		
Age categories (years)	n	% previously diagnosed	95% CI	n	% previously diagnosed	95% CI	n	% previously diagnosed	95% CI
18-29	23	14.9	3.4 - 46.3	30	13.7	5.2 - 31.7	53	14.4	5.8 - 31.5
30-44	87	41.5	28.8 - 55.4	109	43.3	33.4 - 53.9	196	42.3	33.7 - 51.3
45-69	331	61.2	53.7 - 68.2	593	66.9	61.6 - 71.8	924	64.2	59.8 - 68.4
Total	441	50.4	43.9 - 56.9	732	57.0	52.2 - 61.6	1,173	53.7	49.6 - 57.8
Nationality*									
Lebanese	341	52.9	45.7 - 59.9	617	59.2	53.7 - 64.5	958	56.2	51.8 - 60.4
Syrian	86	39.7	25.9 - 55.4	102	44.6	32.9 - 56.9	188	41.9	31.9 - 52.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 76: Treatment for raised blood pressure among those with raised blood pressure or under medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

Treatment for raised blood pressure									
	Male			Female			Total		
Age categories (years)	n	% under medication	95% CI	n	% under medication	95% CI	n	% under medication	95% CI
18-29	23	14.9	3.4 - 46.3	30	7.1	2.0 - 22.2	53	11.4	3.8 - 29.7
30-44	87	34.0	22.7 - 47.4	109	33.9	24.5 - 44.8	196	34.0	25.8 - 43.2
45-69	331	54.7	47.7 - 61.5	593	61.0	55.7 - 66.0	924	58.1	53.7 - 62.3
Total	441	44.6	38.2 - 51.0	732	50.3	45.7 - 54.9	1,173	47.5	43.4 - 51.6
Nationality*									
Lebanese	341	47.1	40.2 - 54.2	617	52.5	47.2 - 57.8	958	49.9	45.6 - 54.3
Syrian	86	32.8	20.2 - 48.5	102	37.9	26.6 - 50.6	188	35.1	25.5 - 46.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

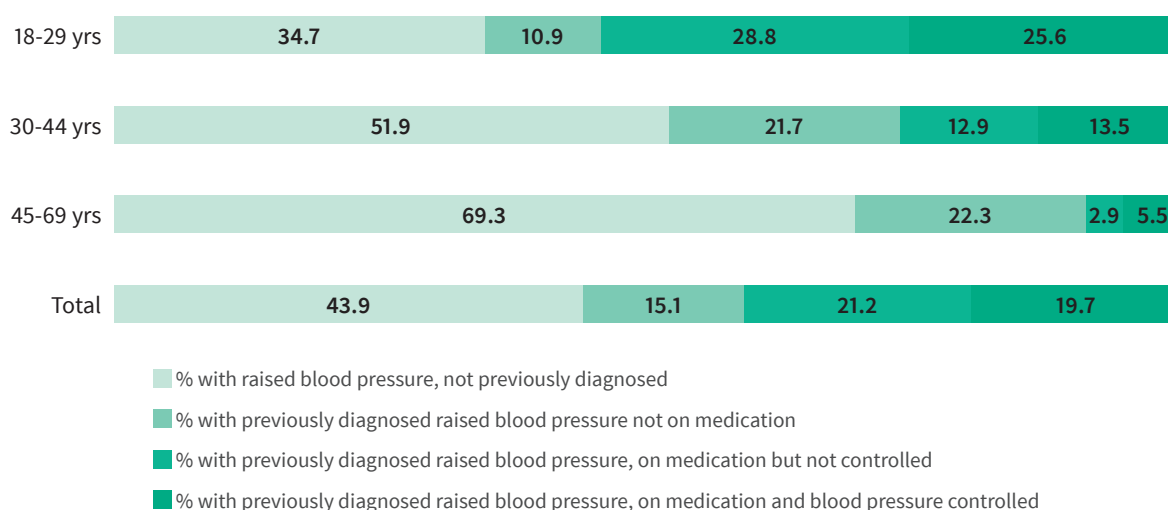
Table 77: Control of raised blood pressure among those with raised blood pressure or under medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

Control of raised blood pressure									
	Male			Female			Total		
Age categories (years)	n	% controlled	95% CI	n	% controlled	95% CI	n	% controlled	95% CI
18-29	23	10.5	1.5 - 47.3	30	6.6	1.7 - 22.3	53	8.7	2.3 - 28.2
30-44	87	16.3	8.7 - 28.2	109	19.0	11.9 - 28.8	196	17.4	11.9 - 24.9
45-69	331	23.8	18.3 - 30.3	593	32.1	27.6 - 37.0	924	28.2	24.4 - 32.4
Total	441	20.2	15.8 - 25.6	732	27.0	23.4 - 31.0	1,173	23.6	20.5 - 27.0
Nationality*									
Lebanese	341	22.4	17.3 - 28.5	617	29.0	24.7 - 33.8	958	25.8	22.2 - 29.8
Syrian	86	10.1	4.3 - 21.9	102	15.2	7.9 - 27.4	188	12.4	7.1 - 21.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

The coverage of therapy and control of raised blood pressure are detailed in graph 5.

Graph 5: Coverage of therapy and control of raised blood pressure, by age groups (STEPS Lebanon, 2024)



3.18.2. Body Mass Index

The mean BMI among the total sample was 28.0 kg/m² (95% CI: 27.7-28.3). Males have a mean BMI of 27.8 (95% CI: 27.2 - 28.4) and females 28.2 kg/m² (95% CI: 27.8 - 28.6).

In addition, based on BMI classification, 30.8% had a normal weight, 34.9% had a BMI between 25 and 29.9, and 32.1% had a BMI ≥30 (Table 78).

Table 78: Percentage of the sample (excluding pregnant females) in each BMI category, by age group and nationality (STEPS Lebanon, 2024)

BMI classifications									
Total									
Age categories (years)	n	% Under-weight <18.5	95% CI	% Normal weight 18.5-24.9	95% CI	% BMI 25.0-29.9	95% CI	% Obese ≥30.0	95% CI
18-29	427	5.3	3.3 - 8.5	47.1	41.4 - 52.8	24.2	19.3 - 29.8	23.4	18.2 - 29.6
30-44	808	0.9	0.5 - 1.7	27.5	23.5 - 31.8	40.5	36.0 - 45.3	31.1	27.0 - 35.4
45-69	1,569	0.8	0.5 - 1.4	20.1	17.4 - 23.2	39.3	35.8 - 42.9	39.8	36.5 - 43.2
Total	2,804	2.3	1.5 - 3.3	30.8	28.1 - 33.5	34.9	32.2 - 37.7	32.1	29.6 - 34.6
Nationality*									
Lebanese	2,160	2.2	1.4 - 3.3	28.4	25.8 - 31.3	36.1	33.3 - 39.1	33.3	30.7 - 35.9
Syrian	594	2.6	1.2 - 5.7	38.4	31.9 - 45.5	31.3	25.5 - 37.8	27.6	22.4 - 33.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

The rates of overweight or obesity (BMI ≥25) amongst the sample is 67.0%, with males at 68.6% and females at 65.5% (Table 79).

Table 79: Percentage of the sample (excluding pregnant females) classified as overweight (BMI≥25), by sex, age group and nationality (STEPS Lebanon, 2024)

BMI≥25									
	Male			Female			Total		
Age categories (years)	n	% BMI≥25	95% CI	n	% BMI≥25	95% CI	n	% BMI≥25	95% CI
18-29	167	52.5	42.8 - 62.1	260	42.8	35.8 - 50.1	427	47.6	41.7 - 53.5
30-44	290	71.5	64.4 - 77.7	518	71.7	67.1 - 75.8	808	71.6	67.2 - 75.6
45-69	560	79.9	75.3 - 83.8	1,009	78.4	74.5 - 81.8	1,569	79.1	76.1 - 81.8
Total	1,017	68.6	63.6 - 73.2	1,787	65.5	62.5 - 68.5	2,804	67.0	64.2 - 69.7
Nationality*									
Lebanese	765	72.5	68.0 - 76.6	1,395	66.6	62.9 - 70.1	2,160	69.4	66.5 - 72.1
Syrian	234	56.9	44.9 - 68.0	360	61.1	52.5 - 69.1	594	58.9	52.0 - 65.6

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.18.3. Waist and hip circumference

The mean waist circumference was 94.8 cm (95% CI: 93.8-95.8), with males having a mean waist circumference of 98 cm (95% CI: 96.4-99.6) versus 91.9 cm (95% CI: 90.7-93.1) for females.

Among females, 77.7% had waist circumferences at or exceeding 80 cm and among males, 59.9% had waist circumferences at or exceeding 94 cm (Table 80).

Table 80: Proportion of elevated waist circumference and mean values, stratified by sex and age group (STEPS Lebanon, 2024)

	Male				Female			
Age categories (years)	% ≥ 94 cm	95% CI	Mean (cm)	95% CI	% ≥ 80 cm	95% CI	Mean (cm)	95% CI
18-29	42.4	32.2 - 53.3	106.2	103.4 - 109.1	57.6	49.9 - 64.8	94.2	91.3 - 97.1
30-44	61.8	53.9 - 69.1	107.2	105.1 - 109.3	80.3	75.6 - 84.3	95.6	94.0 - 97.2
45-69	73.7	68.3 - 78.5	109.3	107.7 - 110.9	91.2	88.6 - 93.3	100.3	99.0 - 101.6
Total	59.9	56.5 - 66.5	108.0	106.7 - 109.2	77.7	76.1 - 81.5	97.5	96.3 - 98.7

3.19. Biochemical measurements

3.19.1. Fasting blood glucose

Fasting blood glucose levels in the total population averaged 104.1 mg/dL (95% CI: 102.0- 106.22) (5.8 mmol/L) and 114.3 mg/dL (6.35 mmol/L) in individuals above 45 years. For males it was 105.14 mg/dL (95% CI: 101.73- 108.53); whereas for females, it was 103.23 mg/dL (95%CI: 100.89- 105.58).

Overall, using the STEPS standard cut-off of 110-125 mg/dL, 11.6% of adults had impaired fasting glycaemia (Table 81). When applying the wider cut-off of 100-125 mg/dL, 26.42% (95% CI: 23.68 -29.35%) of adults met the criteria for impaired fasting glycaemia.

Table 81: Percentage of the sample with impaired fasting glycaemia (100-125 mg/dL), by sex, age group, and nationality (STEPS Lebanon, 2024)

Impaired fasting glycaemia									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	137	8.8	4.3 - 17.0	242	8.1	4.5 - 14.1	379	8.4	5.5 - 12.7
30-44	243	14.3	9.7 - 20.5	471	11.5	8.1 - 15.9	714	12.8	9.9 - 16.4
45-69	499	13.2	9.6 - 17.8	908	13.5	10.8 - 16.7	1,407	13.3	11.0 - 16.1
Total	879	12.1	9.3 - 15.5	1,621	11.2	9.2 - 13.5	2,500	11.6	9.9 - 13.6
Nationality*									
Lebanese	664	12.4	9.4 - 16.3	1,282	12.0	9.9 - 14.5	1,946	12.2	10.4 - 14.2
Syrian	196	10.3	5.3 - 19.0	308	8.2	4.7 - 13.9	504	9.2	6.0 - 14.0

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

In addition, 13.3% of participants had a fasting blood glucose level of 126 mg/dL or above (95% CI: 11.54%–15.25%), consistent with the diagnostic threshold for diabetes. When combining participants with a fasting glucose value ≥ 126 mg/dL with those reporting current treatment for diabetes, the total proportion becomes 17.4% (Table 82).

Table 82: Percentage of the sample with raised blood glucose or currently on medication for diabetes, by sex, age group, and nationality (STEPS Lebanon, 2024)

Raised blood glucose or currently on medication for diabetes									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	137	9.0	5.3 - 14.9	242	6.3	3.4 - 11.4	379	7.5	5.0 - 11.2
30-44	243	11.8	7.5 - 18.2	471	7.0	4.6 - 10.6	714	9.3	6.7 - 12.7
45-69	499	33.4	28.1 - 39.3	908	30.0	26.4 - 33.8	1,407	31.5	28.3 - 35.0
Total	879	19.2	15.9 - 23.0	1,621	15.8	13.7 - 18.2	2,500	17.4	15.3 - 19.7
Nationality*									
Lebanese	664	22.5	18.5 - 27.2	1,282	17.9	15.4 - 20.7	1,946	20.0	17.5 - 22.8
Syrian	196	9.3	5.8 - 14.6	308	8.3	5.2 - 13.1	504	8.8	6.3 - 12.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those with raised blood glucose or currently on medication for diabetes, 58.3% reported being diagnosed (Table 83) and 54.6% reported being on treatment (Table 84).

Table 83: Percentage diagnosed with diabetes among those with raised blood glucose or currently on medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

Diagnosed with diabetes among those with raised blood glucose or currently on medication									
	Male			Female			Total		
Age categories (years)	n	% diagnosed	95% CI	n	% diagnosed	95% CI	n	% diagnosed	95% CI
18-29	12	9.5	1.3 - 45.1	11	45.1	18.2 - 75.2	23	25.3	11.3 - 47.5
30-44	31	33.1	16.0 - 56.1	42	47.6	32.4 - 63.3	73	38.9	26.1 - 53.5
45-69	170	69.0	60.9 - 76.0	289	69.2	61.4 - 76.0	459	69.1	63.3 - 74.3
Total	213	53.5	44.6 - 62.2	342	63.3	55.7 - 70.3	555	58.3	52.3 - 64.1
Nationality*									
Lebanese	180	53.5	43.6 - 63.1	294	65.4	57.1 - 73.0	474	59.4	52.7 - 65.7
Syrian	30	52.4	29.6 - 74.1	42	47.8	31.0 - 65.2	72	50.2	35.6 - 64.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 84: Percentage currently on treatment for diabetes among those with raised blood glucose or currently on medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

Currently on treatment for diabetes among those with raised blood glucose or currently on medication									
	Male			Female			Total		
Age categories (years)	n	% on medication	95% CI	n	% on medication	95% CI	n	% on medication	95% CI
18-29	12	9.5	1.3 - 45.1	11	45.1	18.2 - 75.2	23	25.3	11.3 - 47.5
30-44	31	33.1	16.0 - 56.1	42	31.7	17.5 - 50.3	73	32.5	20.1 - 47.9
45-69	170	66.1	57.7 - 73.6	289	64.4	56.7 - 71.4	459	65.2	59.3 - 70.7
Total	213	51.6	42.6 - 60.4	342	57.8	50.0 - 65.1	555	54.6	48.6 - 60.5
Nationality*									
Lebanese	180	51.3	41.4 - 61.2	294	59.9	51.6 - 67.7	474	55.5	48.9 - 62.0
Syrian	30	52.4	29.6 - 74.1	42	41.2	25.8 - 58.6	72	47.1	32.9 - 61.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Findings based on HbA1c are aligned with the results from other blood sugar variables. The mean HbA1c in the total sample was 5.5% (95% CI: 5.4-5.6), slightly higher in older adults (5.9% in those 45–69 years; 95% CI: 5.8 - 6.0). Lebanese showed a slightly higher mean than Syrians (5.6 vs. 5.2).

By HbA1c category, 73.9% of participants had HbA1c <5.7% (normoglycemia), 15.8% were in the 5.7–6.5% range (impaired), and 11.2% had HbA1c ≥6.5% (elevated), consistent with diabetes (Table 85).

Table 85: Percentage of the sample by HbA1c level category, by age group and nationality (STEPS Lebanon, 2024)

HbA1c categories							
Total							
Age categories (years)	n	% HbA1c<5.7	95% CI	% HbA1c>=5.7 & HbA1c<=6.5	95% CI	% HbA1c>=6.5	95% CI
18-29	396	85.7	79.9 - 90.0	10.5	7.2 - 15.1	3.8	1.9 - 7.6
30-44	754	81.9	77.6 - 85.5	12.9	10.0 - 16.5	6.2	4.4 - 8.6
45-69	1,493	58.4	54.7 - 62.1	22.2	19.3 - 25.4	20.9	18.1 - 24.1
Total	2,643	73.9	70.7 - 76.8	15.8	13.7 - 18.3	11.2	9.5 - 13.2
Nationality*							
Lebanese	2,051	70.7	67.0 - 74.2	17.8	15.3 - 20.7	12.4	10.4 - 14.7
Syrian	538	85.0	81.4 - 88.1	8.3	6.2 - 11.2	7.2	5.1 - 10.1

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.19.2. Total cholesterol

Total cholesterol levels in the population averaged 167.9 mg/dL (95% CI: 164.4 - 171.4) (4.3 mmol/L), with females showing slightly higher levels than males overall (172.4 mg/dL; 95% CI: 169.1 - 175.8 vs. 162.6 mg/dL; 95% CI: 157.0 - 168.2). Cholesterol increased with age: adults 45–69 years reached 179.0 mg/dL (95% CI: 174.9 - 183.2) (4.6 mmol/L). Raised total cholesterol (≥ 190 mg/dL / 5.0 mmol/L or on medication) was found in 32.4% of adults (Table 86).

When using the higher threshold (≥ 240 mg/dL / 6.2 mmol/L or on medication), the proportion was 15.2% overall and about 30% in the oldest age group (Table 87).

Table 86: Percentage of the sample with raised total cholesterol (≥ 190 mg/dL) or on medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

Total cholesterol ≥ 190 mg/dL or on medication or ≥ 5.0 mmol/L									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	144	17.9	11.4 - 26.9	253	16.3	11.4 - 22.7	397	17.0	13.1 - 21.7
30-44	258	25.0	18.4 - 33.0	494	25.6	20.6 - 31.2	752	25.3	21.0 - 30.1
45-69	525	41.0	35.3 - 46.9	965	57.4	52.7 - 61.9	1490	49.9	46.1 - 53.6
Total	927	28.9	24.4 - 33.8	1,712	35.3	31.8 - 39.0	2,639	32.4	29.4 - 35.4
Nationality*									
Lebanese	701	33.1	28.0 - 38.7	1,347	39.8	36.0 - 43.7	2,048	36.7	33.5 - 40.1
Syrian	206	15.7	10.0 - 23.7	330	19.7	14.4 - 26.3	536	17.7	13.2 - 23.2

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 87: Percentage of the sample with raised total cholesterol (≥ 240 mg/dL) or on medication, by sex, age group, and nationality (STEPS Lebanon, 2024)

Total cholesterol ≥ 240 mg/dL or on medication or ≥ 6.2 mmol/L									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	144	4.9	1.6 - 13.9	253	3.3	1.6 - 6.8	397	4.0	2.0 - 7.9
30-44	258	7.7	4.7 - 12.3	494	6.8	4.4 - 10.3	752	7.2	5.1 - 10.0
45-69	525	28.8	23.4 - 35.0	965	31.2	26.6 - 36.2	1,490	30.1	26.2 - 34.3
Total	927	15.0	11.7 - 19.1	1,712	15.4	13.0 - 18.1	2,639	15.2	12.9 - 17.9
Nationality*									
Lebanese	701	17.2	13.2 - 22.0	1,347	17.8	15.0 - 20.9	2,048	17.5	14.7 - 20.7
Syrian	206	7.6	4.7 - 12.0	330	7.4	4.5 - 12.0	536	7.5	5.2 - 10.7

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Regarding the High Density Lipoprotein (HDL)-cholesterol, the mean among the total sample was 51.8 mg/dL (95% CI: 50.5-53.2). In terms of thresholds for HDL, 31.4% of males (95% CI: 27.1-36.0) had low HDL (<40 mg/dL or 1.03 mmol/L for males), and 39.5% of females (95% CI: 36.0-43.2) had low HDL (<50 mg/dL or 1.29 mmol/L for females).

For Low Density Lipoprotein (LDL)-cholesterol, among the total sample, the mean value was 97.8 mg/dL (95% CI: 95.4-100.2) in the total sample. In terms of thresholds for LDL, 15.0% of adults had LDL $\geq$ 130 mg/dL ($\geq$ 3.4 mmol/L) (Table 88). In addition, 5.6% of adults had very high LDL ($\geq$ 160 mg/dL or 4.1 mmol/L) (Table 89).

Table 88: Percentage of the sample with high LDL-cholesterol levels ($\geq$ 130mg/dL), by sex, age group, and nationality (STEPS Lebanon, 2024)

LDL-cholesterol $\geq$ 130mg/dL or $\geq$ 3.4mmol/L									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	115	13.3	7.6 - 22.0	207	4.9	2.5 - 9.5	322	8.7	5.6 - 13.2
30-44	236	11.3	7.5 - 16.9	439	11.6	8.3 - 16.0	675	11.5	8.8 - 14.9
45-69	439	20.6	16.2 - 25.8	843	23.8	20.4 - 27.6	1,282	22.4	19.3 - 25.8
Total	790	15.5	12.3 - 19.4	1,489	14.5	12.2 - 17.1	2,279	15.0	12.7 - 17.5
Nationality*									
Lebanese	597	18.7	14.9 - 23.2	1,170	16.1	13.7 - 18.8	1,767	17.3	14.8 - 20.1
Syrian	178	5.8	3.0 - 11.2	286	8.8	5.1 - 14.8	464	7.4	4.7 - 11.3

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 89: Percentage of the sample with high LDL- cholesterol levels ($\geq$ 160mg/dL), by sex, age group, and nationality (STEPS Lebanon, 2024)

LDL-cholesterol $\geq$ 160mg/dL or $\geq$ 4.1mmol/L									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	115	2.5	0.6 - 9.7	207	2.8	1.3 - 6.0	322	2.7	1.3 - 5.6
30-44	236	4.6	2.4 - 8.5	439	2.8	1.5 - 5.2	675	3.6	2.2 - 5.8
45-69	439	8.9	6.0 - 13.0	843	9.5	7.3 - 12.2	1,282	9.2	7.4 - 11.4
Total	790	5.7	3.9 - 8.1	1,489	5.5	4.3 - 6.9	2,279	5.6	4.4 - 6.9
Nationality*									
Lebanese	597	6.4	4.4 - 9.4	1,170	6.0	4.8 - 7.6	1,767	6.2	4.9 - 7.8
Syrian	178	3.3	1.4 - 7.8	286	3.8	1.7 - 8.4	464	3.6	2.0 - 6.5

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Triglycerides were also elevated among the population. Mean fasting triglycerides were 132.4 mg/dL (95% CI: 127.6-137.2) overall. Raised fasting triglycerides (≥ 150 mg/dL or 1.7 mmol/L) were seen in 28.2% of adults (Table 90). Using the cut-off of ≥ 180 mg/dL (2.0 mmol/L), almost 1 in 5 adults (19.1%) remained above target (Table 91).

Table 90: Percentage of the sample with raised fasting triglycerides (≥ 150 mg/dL) (non-fasting recipients excluded), by sex, age group, and nationality (STEPS Lebanon, 2024)

Fasting triglycerides ≥ 150 mg/dL or ≥ 1.7 mmol/L									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	141	23.7	15.9 - 33.9	232	14.0	8.1 - 22.9	373	18.7	13.3 - 25.6
30-44	248	31.0	24.2 - 38.7	464	24.7	20.0 - 30.1	712	27.7	23.6 - 32.2
45-69	515	34.4	29.8 - 39.3	940	36.9	32.6 - 41.5	1,455	35.8	32.4 - 39.3
Total	904	30.0	26.1 - 34.3	1,636	26.5	22.9 - 30.5	2,540	28.2	25.2 - 31.3
Nationality*									
Lebanese	688	32.7	28.3 - 37.5	1,295	29.1	24.8 - 33.8	1,983	30.7	27.4 - 34.3
Syrian	196	21.2	15.6 - 28.1	308	18.0	12.8 - 24.7	504	19.6	15.3 - 24.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Table 91: Percentage of the sample with raised fasting triglycerides (≥ 180 mg/dL) (non-fasting recipients excluded), by sex, age group, and nationality (STEPS Lebanon, 2024)

Fasting triglycerides ≥ 180 mg/dL or ≥ 2.0 mmol/L									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
18-29	141	18.8	11.7 - 28.8	232	9.5	4.4 - 19.6	373	14.0	9.0 - 21.1
30-44	248	21.7	16.0 - 28.8	464	15.9	11.9 - 21.0	712	18.7	15.2 - 22.7
45-69	515	24.2	20.0 - 29.0	940	22.4	19.0 - 26.3	1,455	23.2	20.4 - 26.4
Total	904	21.7	18.0 - 26.0	1,636	16.7	13.5 - 20.5	2,540	19.1	16.4 - 22.0
Nationality*									
Lebanese	688	24.3	19.9 - 29.4	1,295	18.6	14.7 - 23.3	1,983	21.3	18.1 - 24.8
Syrian	196	13.4	9.5 - 18.6	308	9.8	6.5 - 14.4	504	11.6	9.0 - 14.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.19.3. Salt intake

Mean daily salt intake, estimated using spot urine samples, was 9.0 g/day in the total adult population, which is almost double the WHO recommended maximum value of 5 g/day (Table 92).

Table 92: Mean intake of salt in grams per day among the total sample (estimated from spot urine), by sex, age group, and nationality (STEPS Lebanon, 2024)

Mean salt intake (g/day)									
	Male			Female			Total		
Age categories (years)	n	Mean	95% CI	n	Mean	95% CI	n	Mean	95% CI
18-29	94	9.8	9.2 - 10.3	146	7.6	7.3 - 8.0	240	8.7	8.4 - 9.0
30-44	173	10.5	10.1 - 10.9	316	8.3	8.1 - 8.5	489	9.3	9.1 - 9.6
45-69	344	10.5	10.3 - 10.7	645	7.6	7.4 - 7.8	989	8.9	8.7 - 9.0
Total	611	10.3	10.0 - 10.5	1,107	7.8	7.6 - 8.0	1,718	9.0	8.8 - 9.1
Nationality*									
Lebanese	458	10.2	9.9 - 10.4	875	7.7	7.5 - 7.8	1,333	8.8	8.7 - 9.0
Syrian	142	10.6	9.9 - 11.3	220	8.3	8.0 - 8.6	362	9.5	9.1 - 9.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

3.20. Cardiovascular disease risk

The 10-year cardiovascular disease (CVD) risk was assessed among adults aged 40–69 years using the WHO risk prediction model, which integrates sex, age, smoking status, systolic blood pressure, total cholesterol, history of diabetes, and BMI as core risk factors. The population was categorized into three risk levels: low-risk (CVD risk <10%), moderate-risk (CVD risk between 10%-20%), and high-risk (CVD risk ≥20%).

Results show that more than half of those aged 40-69 years had a CVD risk above 10%. Around 20.2% (95% CI: 17.7 - 22.9) have a CVD risk having a CVD risk ≥20%, with differences noted in nationalities and age groups (Table 93). Females and males had relatively close percentages, with 21.1% (95% CI: 17.2 - 25.7) of males and 19.4% (95% CI: 16.7 - 22.4) of females having a CVD risk ≥20%.

Table 93: 10-year CVD risk among those aged 40-69 years, by age group and nationality (STEPS Lebanon, 2024)

Percentage of population by level of 10-year CVD risk							
Total							
Age categories (years)	n	% <10%	95% CI	% 10-20%	95% CI	% ≥20%	95% CI
40-54	787	71.9	67.2 - 76.1	23.6	19.6 - 28.1	4.6	3.2 - 6.4
55-69	954	12.2	9.5 - 15.5	50.6	46.3 - 55.0	37.2	33.1 - 41.5
Total	1,741	43.3	40.0 - 46.7	36.5	33.5 - 39.6	20.2	17.7 - 22.9
Nationality*							
Lebanese	1,479	40.6	37.1 - 44.1	37.5	34.3 - 40.9	21.9	19.2 - 24.9
Syrian	228	59.1	51.1 - 66.7	30.8	23.9 - 38.8	10.0	6.7 - 14.8

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Overall, 28.2% of adults aged 40–69 years had a 10-year CVD risk $\geq 20\%$ or existing CVD. This proportion was slightly higher in males (30.7%) than in females (26.1%) (Table 94).

Table 94: Percentage of the sample aged 40-69 years with a 10-year cardiovascular disease (CVD) risk* $\geq 20\%$ or with existing CVD, by sex, age group, and nationality (STEPS Lebanon, 2024)

Percentage of population with a 10-year CVD risk $\geq 20\%$ or with existing CVD									
	Male			Female			Total		
Age categories (years)	n	%	95% CI	n	%	95% CI	n	%	95% CI
40-54	299	10.9	7.3 - 16.0	488	10.5	7.9 - 13.7	787	10.7	8.3 - 13.5
55-69	315	54.6	47.3 - 61.8	639	41.7	36.8 - 46.7	954	47.3	42.8 - 51.9
Total	614	30.7	26.1 - 35.8	1,127	26.1	23.0 - 29.4	1,741	28.2	25.3 - 31.3
Nationality**									
Lebanese	491	31.9	26.9 - 37.5	988	28.4	25.0 - 32.0	1,479	29.9	26.8 - 33.3
Syrian	107	24.3	15.8 - 35.6	121	8.9	4.7 - 16.4	228	17.9	12.6 - 24.6

* CVD risk: low-risk (CVD risk $< 10\%$), moderate-risk (CVD risk between 10%-20%), and high-risk (CVD risk $\geq 20\%$).

** Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

Among those eligible for preventive care, defined as individuals aged 40–69 years with a CVD risk $\geq 20\%$ or with existing CVD, 57.7% (95% CI: 51.9 - 63.4) reported receiving drug therapy and counselling (including for glycaemic and blood pressure control) to prevent heart attacks and strokes.

3.21. Summary of combined risk factors

The summary of combined cardiovascular risk factors presents the distribution of five key modifiable risk factors among adults aged 18–69 years:

- Current daily smoking
- Low fruit and/or vegetable consumption (fewer than five servings per day)
- Insufficient physical activity (not meeting WHO's minimum of 150 minutes of moderate activity per week, or equivalent)
- Overweight or obesity (BMI ≥ 25 kg/m²)
- Raised blood pressure (SBP ≥ 140 mmHg and/or DBP ≥ 90 mmHg, or currently on medication for raised blood pressure)

Overall, more than half of the population (56.5%) had three to five risk factors, while 42.1% had one or two (Table 95). The clustering of multiple risk factors increased sharply with age, reaching 72.3% among those aged 45-69 years.

Males were slightly more affected than females, with 58.7% (95% CI: 53.7 - 63.5) of males and 54.6% (95% CI: 50.9 - 58.2) of females having 3–5 risk factors.

Table 95: Summary of combined risk factors, by age group and nationality (STEPS Lebanon, 2024)

Summary of combined risk factors							
Total							
Age categories (years)	n	% with 0 risk factors	95% CI	% with 1-2 risk factors	95% CI	% with 3-5 risk factors	95% CI
18-44	1,142	1.7	0.7 - 3.8	52.2	47.5 - 56.8	46.2	41.7 - 50.7
45-69	1,474	0.9	0.5 - 1.9	26.8	23.9 - 29.9	72.3	69.1 - 75.3
Total	2,616	1.4	0.7 - 2.7	42.1	38.9 - 45.3	56.5	53.4 - 59.6
Nationality*							
Lebanese	2,030	1.8	0.9 - 3.4	38.9	35.4 - 42.4	59.3	55.8 - 62.8
Syrian	538	0.1	0.0 - 0.5	53.7	47.0 - 60.3	46.2	39.7 - 52.9

* Nationality-specific analyses are presented for Lebanese and Syrian participants only; estimates for other nationalities were not shown due to small sample sizes.

4. Discussion

The national STEPS survey provides a comprehensive snapshot of NCD risk factors among adults aged 18–69 years in Lebanon. The findings reveal that behavioural and metabolic risk factors remain widely prevalent and frequently co-occurring within the same individuals.

Nonetheless, understanding the participants' sociodemographic characteristics is essential for interpreting these findings and tailoring interventions. The survey sample was predominantly Lebanese (76.7%), with females comprising nearly two-thirds of the total sample. Lebanese participants were also older, with almost two-thirds in the 45–69 year group, whereas Syrian participants had a younger age profile, with the highest concentration in the 30–44 age range. Regarding education, the sample showed higher frequencies of individuals with elementary-level schooling or no formal literacy qualifications among Syrian participants. Overall, employment was low among females, with a substantial proportion identifying as homemakers, while many males, especially Syrians, were self-employed or engaged in informal daily work. Income levels were low for both groups, but markedly lower among Syrians, with the mean monthly income of 18.8 million LBP (equivalent to 210 UD using the exchange rate of 89,500 LBP = 1 USD) compared to Lebanese (30.5 million LBP equivalent to 341 USD). Although the data were weighted by age and sex to improve representativeness at the population level, the demographic distribution of the sample indicates that the current sample more likely reflects a predominantly socially and economically vulnerable population, which should be considered when interpreting NCD risk factor estimates.

Tobacco

Tobacco use continues to be widespread, with 52.1% of adults being current smokers, insinuating that cultural acceptance remains strong, with rising patterns of waterpipe/arguileh smoking among females. Among current smokers, 35.3% of males reported smoking arguileh compared 53.7% of females, with 77% of females 18-29 years of age. Waterpipe/arguileh smoking is especially common among younger adults, while cigarette use predominates in older age groups.

Smoking rates have alarmingly increased from 38.0% to 52.1%, with an increase for males from 47.6% in 2017 to 60.5% in 2024; and for females from 29% to 44.6%. Looking at similar countries from the

Region, in Jordan for instance, STEPS data³⁹ in 2019 revealed a percentage of current smokers of 41.0% for both sexes, with rates of 65.3% for males and 16.4% females. Such data indicates that tobacco use in Lebanon has increased at an alarming rate, becoming amongst the highest in the region, especially among females, potentially indicating larger cultural acceptability.

The findings can also be triangulated with the results of the Global School Health Survey (GSHS) (2024), where 30% of students (grades 7–12) reported being current smokers.⁴⁰ Combined, these findings require urgent attention, given the extent to which the use of tobacco products is increasing at young ages. This is particularly relevant when looking at the mean duration of smoking in the 2024 STEPS participants, reported to be 21.1 years amongst smokers, indicating that most individuals begin smoking in late adolescence or early adulthood and do not stop. Hence, tobacco control measures and smoking cessation efforts need to be strengthened, along with comprehensive interventions aimed at preventing smoking initiation. In addition, once smoking is initiated, smoking duration did not differ between sexes, further emphasizing the importance of smoking cessation programs addressing both sexes and different types of tobacco use.

The mean age of smoking initiation in the current STEPS sample was 20.2 years, compared to 18.9 years in the 2017 survey. However, this finding should be interpreted with caution. According to the 2024 GSHS, 62.2% of students (grades 7–12) reported trying their first cigarette before age 14, and 66.3% tried arguileh before age 13. This discrepancy may reflect methodological differences, STEPS being a household survey of adults, while GSHS captures self-reported behaviours among adolescents, potentially leading to underestimation of early initiation in STEPS. This warrants a need for further exploration of the trend of smoking initiation, noting that it is the only indicator among the tobacco use data that showed a slight improvement compared to 2017.

Another alarming indicator is the exposure to second-hand smoking, which has severely increased since 2017. Breaking it down, 70.1% of the current STEPS participants were exposed to second-hand smoke at home compared to 43.8%⁴¹ in 2017; and 58.8% in the current sample were exposed at the workplace compared to 39.2% in 2017. Lastly, 76.8% of the current sample were exposed in the past three days to second-hand smoke in a closed area other than their home (e.g. restaurants, car, etc.). These findings indicate that non-smokers have few opportunities to protect themselves from second-hand smoke due to the widespread nature of tobacco use in indoor and public spaces.

In conclusion, Lebanon's latest STEPS data points to an alarming rise in tobacco use compared with earlier and other surveys. This upward trend signals a critical public health threat that is likely to translate into substantial future burdens of cardiovascular disease, cancer, chronic respiratory disease and other noncommunicable diseases if left unaddressed. These findings underscore the urgent need for comprehensive, multi-level tobacco control measures that both prevent smoking initiation among adolescents and young adults and support smoking cessation among current smokers, in line with the WHO Best Buys.⁴²

Alcohol consumption

The 2024 STEPS results indicate that 13.6% of adults in Lebanon reported consuming alcohol in the past 30 days. For Lebanese participants only, prevalence is 16.9%, compared with 23.4% among Lebanese participants in the 2017 STEPS survey. Although the 2024 STEPS results show that alcohol use among adults in Lebanon is decreasing, in comparison with neighbouring countries, alcohol consumption in Lebanon remains higher. For example, Jordan's 2019 STEPS survey reported 1.4% current drinkers,

³⁹ Jordan Ministry of Health, Centre for Strategic Studies (University of Jordan), and the World Health Organization. (2020). Jordan National STEPwise Approach to Noncommunicable Disease Risk Factor Surveillance (STEPS) Survey 2019. World Health Organization. https://www.moh.gov.jo/ebv4.0/root_storage/en/eb_list_page/stepwise_survey_steps_2020_technical_report-english.pdf

⁴⁰ Ministry of Public Health (MoPH). (2024). Lebanon Global School-based Student Health Survey (GSHS) 2024: Country report. <https://www.moph.gov.lb/userfiles/files/HealthCareSystem/Mother%26ChildHealth/School%20Health/Lebanon%20GSHS%202024%20-%20Country%20Report.pdf>

⁴¹ This value is among the Lebanese sample in the 2017 STEPS survey results.

⁴² World Health Organization. (2018). NCD best buys and other effective interventions: Evidence-based cost-effective public health interventions to prevent and control NCDs. https://applications.emro.who.int/docs/EMROPUB_2018_EN_17036.pdf

while Egypt's STEPS survey reported 0.8% current drinkers.⁴³ Lebanon's rates, although lower than global averages and the 2017 STEPS, remain significantly higher than regional peers, especially among youth and young adults. This pattern is not unexpected, given Lebanon's greater cultural and religious diversity and comparatively more permissive social norms around alcohol use. Alcohol consumption rates, however, may be underestimated, especially when compared to recent data from the Global School Health Survey 2024 (GSHS). Nonetheless, this still raises concern in view of the broader NCD risk profile observed in this survey.

Among past-month drinkers, the frequency and quantity of alcohol consumption were on average of 3.2 drinking occasions in the previous 30 days and 2.2 drinks per occasion. Most drinkers (75.3%) consumed alcohol at lower-end levels (<40g of pure alcohol per occasion for males and <20g for females). These indicators are similar to the 2017 STEPS survey showing on average 3.3 drinking occasions and 2.2 drinks per occasion and 64.9% consuming alcohol at lower-end levels among Lebanese. In addition, heavy episodic drinking (≥ 6 drinks on a single occasion) was reported by 1.7% of the total population, compared to 5.3% among Lebanese in 2017 findings. However, the prevalence of heavy episodic drinking was higher among young males, reaching 8.4% among males aged 18–44 years in 2024 STEPS. In comparison with neighbouring countries, heavy episodic drinking was 0.6% in Jordan's 2019 STEPS survey and 0.5% in Egypt's STEPS survey.

When examining drinkers -only those who consumed alcohol in the past 30 days-, the burden becomes more evident. Among this group, 16.1% of males reported heavy episodic drinking, compared with 4.6% of females. Age patterns showed a clear gradient: heavy episodic drinking was highest among younger adults (19.9% in ages 18–29) and 16.2% in those aged 30–44, before declining markedly in older age groups. Such values reflect the recent findings from the 2024 GSHS whereby 10.8% of students (grades 7–12) were current drinkers, with higher rates among males (15.5%) compared with females (6.9%). Among 12th graders, 18.1% reported drinking in the past year, with substantial proportions reporting heavier drinking: 41.5% consumed two or more drinks per occasion, and 14.1% reported consuming six or more drinks. Despite the findings revealing that heavy episodic drinking has decreased among adults as compared to 2017 STEPS findings, it is essential to highlight that heavy episodic drinking among the youth, both from the 2024 STEPS survey and 2024 GSHS data show riskier patterns begin to emerge during adolescence.

In addition to consumption patterns, other indicators point to risky or harmful drinking behaviours. Among past-year drinkers, 2.2% reported being unable to stop drinking once started, 3.7% reported failing to fulfil expected obligations, and 3.4% reported needing a morning drink to get going, each occurring on a frequency of once monthly at least. These behaviours show how alcohol is affecting daily functioning and could point to early symptoms of alcohol-use disorders.

It is to note, however, that the current drinking rates are likely to be an underestimate, especially since GSHS data show that 20% of middle and high school students ever drank, and 10% were current drinkers (drank in the past month). Alcohol prices in Lebanon have increased since 2019, driven by the inflation and economic instability.⁴⁴ In addition, given the nature of the methodological approach of the STEPS (household survey), these findings should be interpreted with caution and warrant further research to better understand drinking patterns in Lebanon.

Overall, the STEPS findings highlight an important pattern, risky behaviours, especially heavy episodic drinking are more common among young males. Early drinking behaviours identified in school-aged children suggest that prevention efforts must begin before adulthood to avoid escalation into harmful patterns. These findings signal the need for strengthened, alcohol prevention interventions in line with WHO's Best Buys and SAFER recommendations.

⁴³ World Health Organization. (2017). STEPS survey on risk factors for noncommunicable diseases: Egypt 2017. WHO. <https://www.who.int/teams/noncommunicable-diseases/surveillance/data/egypt>

⁴⁴ CEIC Data. (n.d.). Lebanon consumer price index: Alcoholic beverages and tobacco. Retrieved from <https://www.ceicdata.com/en/lebanon/consumer-price-index-dec2013100/cpi-alcoholic-beverages-and-tobacco>

Diet

The 2024 STEPS findings highlight a deterioration in dietary practices. Fruit and vegetable intake remains below WHO recommendations, which advise consuming at least five servings per day (equivalent to 400 g). The average in the current sample was only 1.2 servings of fruits and 1.3 servings of vegetables per day, amounting to 2.5 combined servings, a decline compared with the 2017 STEPS findings which reported an intake of 3.6 servings of fruits and vegetables per day. Overall, 90.5% of adults reported consuming fewer than five servings daily. In comparison with regional findings, Jordan's 2019 STEPS reported 3.1 combined servings per day, while Egypt reported 2.4 servings.

However, it is important to note that fruits and vegetables intake exhibit variability across seasons. The 2024 STEPS data collection took place in the winter season, between November 2023 and February 2024, which may have influenced the current findings. A study conducted in the months of May to September 2022 on a nationally representative sample of Lebanese adults revealed a total consumption of 460 g of fruits and vegetables combined, which is equivalent to 5.75 servings per day.⁴⁵

Additionally, such findings may be linked to Lebanon's prolonged economic crisis. Reduced purchasing power, rising food prices, and the unaffordability of fresh produce have likely contributed to lower intake.

Salt

Salt consumption in Lebanon remains critically high and represents one of the most striking findings of the 2024 STEPS survey. Despite widespread awareness of the health risks associated with high salt intake, salt-adding behaviours remain common: 36% of adults "always or often" add salt or salty sauces at the table, and 43.1% add salt during cooking. In addition, 43.4% regularly consume processed foods high in salt, and one in five adults (19.4%) perceive their own salt intake as too high. Compared with the 2017 STEPS survey, the proportion who "always or often" add salt at the table increased from 23.1%, and those regularly consuming processed foods high in salt rose from 20.7% to 43.4%, indicating a clear worsening of salt-related behaviours over time. In regional context, Egypt reported higher table-salt use (47.6%) but lower consumption of processed high-salt foods (17.1%), whereas Jordan reported 30.6% frequently adding salt at the table and 33.4% frequently consuming processed foods high in salt. Lebanon therefore appears broadly similar to other EMR countries in discretionary salt use, but with particularly high reliance on processed foods as a source of dietary salt. While 85.1% recognize that excessive salt consumption can cause serious health problems, this awareness has not consistently translated into healthier practices. Biochemical estimates reinforce these behavioural findings. Mean salt intake was 9.0 g/day, almost double the WHO-recommended limit of 5 g/day, and slightly higher than the 8.6 g/day reported in the 2017 survey. These levels are comparable to those observed in other EMR countries with biochemical data (e.g. 8.9 g/day in Egypt and 10.9 g/day in Jordan), underscoring that Lebanon's salt intake is not only persistently elevated but also aligned with a regional pattern of excessive sodium consumption.

The estimates of mean salt intake were derived from spot urine samples, a method validated internationally as a practical and reliable approach to estimating population-level sodium intake. As highlighted in global evidence, "estimates of mean population salt intake based upon spot urine samples can provide countries with a good indication of mean population salt intake", making this methodology appropriate in Lebanon, where 24-hour urine collection is logistically difficult. Although spot urine is not designed to provide precise individual-level measures, it produces valid national averages and allows comparability with other EMR countries and previous STEPS rounds.

Consumption patterns suggest that persistently high salt intake may be driven by several factors, including lack of awareness of sources of salt, reliance on processed and preserved foods, increased use of low-cost, high-sodium products amid the economic crisis, and limited availability or affordability of

⁴⁵ Hoteit, M., Khattar, M., Malli, D., Antar, E., Al Hassani, Z., Abdallah, M., ... & Group, T. A. L. F. (2024). Dietary intake among Lebanese adults: findings from the updated LEBANESE natiONal Food Consumption Survey (LEBANON-FCS). *Nutrients*, 16(11), 1784.

fresh alternatives. Given the high burden of hypertension and cardiovascular disease in Lebanon, and the excessive intake of salt, reducing sodium intake remains one of the most cost-effective interventions to improve population health.

Physical inactivity

Physical inactivity further compounds this risk environment. About 35.6% of adults do not meet WHO recommendations for physical activity, with a marked gender gap: 43.8% of females are insufficiently active compared to 26.1% of males. This difference may partly reflect a large contribution of work-related activity, more common among males as compared to females. Indeed, over one-third of participants (36.2%) reported engagement in occupational physical activity. Thus, the proportion of respondents not meeting WHO recommendations for physical activity should be interpreted with caution and warrant additional investigation.

At the same time, sedentary time remains high overall, with adults spending an average of around four hours per day sitting or reclining. Similar patterns are observed among adolescents whereby it was reported in the GSHS that 44.8% of students in grades 7–12 spent three or more hours per day in sedentary behaviours. Taken together, these findings highlight an increasingly sedentary lifestyle across age groups, particularly among females, which combined with unhealthy diets and high tobacco exposure, contributes to the high burden of overweight, obesity, and related cardiometabolic risks in Lebanon.

Physical measurements: BMI and waist circumference

The 2024 STEPS findings highlight a similar trend of BMI levels since 2017, whereby in the current sample the mean BMI of the total sample was 28.0 kg/m² compared to 27.4 kg/m² in 2017. These values are broadly similar to regional findings, falling between Jordan (27.5 kg/m²) and Egypt (28.2 kg/m²).

In terms of overweight and obesity, 34.9% of the total sample had overweight (BMI 25–29.9) and 32.1% had obesity (BMI ≥30). When combined, 67.0% of adults had a BMI ≥25, slightly higher than the 2017 data of 65.0%. Lebanon also compares unfavourably with other countries in the region: Jordan's prevalence of overweight or obesity stands at 60.8%, and Egypt's at 63%, although Egypt reports a higher obesity rate (35.7%). These findings confirm that excess weight remains highly prevalent in Lebanon.

Waist circumference measurements reinforce this picture, indicating widespread central obesity, a key risk factor for cardiometabolic disease. The mean waist circumference was 98.0 cm among males and 91.9 cm among females. Compared to 2017, waist circumference has increased for both sexes (from 96.1 cm to 98.0 cm in males, and from 89.2 cm to 91.9 cm in females), reflecting a shift toward greater abdominal adiposity. Relative to regional data, Lebanon's values fall between those of Jordan, where waist circumference was lower for both sexes (91.1 cm for males and 89.6 cm for females), and Egypt, where females had a markedly higher mean waist circumference (91.3 cm for males and 95.5 cm for females).

When applying standard cut-off points for central obesity, the burden becomes even more pronounced. Among females, 77.7% had waist circumferences at or exceeding 80 cm, with particularly high levels observed in older age groups, rising to 91.2% among females aged 45–69 years (mean: 100.31 cm). Among males, 60.0% had waist circumferences at or exceeding 94 cm, increasing to 73.7% among those aged 45–69 years (mean: 109.33 cm). These patterns demonstrate that central obesity is already widespread in early adulthood and becomes nearly ubiquitous in older adults.

Taken together, the BMI and waist circumference findings highlight the need for comprehensive national strategies promoting healthy diets, physical activity, and supportive environments capable of curbing the progression of obesity and related noncommunicable diseases.

Diabetes

Diabetes and impaired blood glucose remain a major public health concern in Lebanon, with biochemical indicators showing increased rates amongst the population. In the 2024 STEPS survey, the mean fasting blood glucose level in the total sample was 104.1 mg/dL (5.8 mmol/L), an increase from 99.7 mg/dL in 2017. For comparison, the 2019 STEPS survey in Jordan reported a substantially lower mean fasting blood glucose of 82.8 mg/dL.

Looking at impaired blood glucose, using the 110–125 mg/dL threshold commonly applied in STEPS surveys, 12.2% of Lebanese adults had impaired fasting glycaemia, nearly three times higher than the 4.2% reported in 2017. This level also exceeds regional figures such as Egypt (6.3%, 2017) and Jordan (6.1%, 2019). When applying the broader 100–125 mg/dL definition widely used in the literature, the proportion rises to 26.42%, indicating that more than one in four adults have blood glucose levels above the normal range.

Regarding raised blood glucose (≥ 126 mg/dL), 13.3% of participants had raised blood glucose, aligning with diagnostic criteria for diabetes. When combining individuals with fasting blood glucose ≥ 126 mg/dL and those reporting current diabetes treatment, the overall proportion reached 17.6%. This indicator accounts for individuals with controlled diabetes whose glucose levels may appear normal due to treatment. This represents a substantial rise from 10.5% in the 2017 STEPS survey. The 2024 estimate is also consistent with national published literature, where a pooled analysis from five studies conducted between 2018 and 2023 found a median prevalence of 19% (IQR 16%–25.5%). Included articles had a minimum sample size of 209, computed based on the prevalence of diabetes in the Eastern Mediterranean Region. Compared with neighbouring countries, Lebanon's burden remains high. Particularly when looking at the age category of 45–69 in Lebanon, the proportion of raised fasting glucose or those on diabetes medication was 31.5% in the current sample, substantially higher than 20.5% in Jordan (2019). These findings indicate a rapidly escalating diabetes burden in Lebanon.

Complementary HbA1c measurements yielded a similar pattern where 15.8% of the current sample fell within the impaired range (5.7–6.5%), and 11.2% had HbA1c values $\geq 6.5\%$, consistent with the diabetes diagnostic criteria.

Raised blood pressure

The 2024 STEPS results confirm the continued high burden of hypertension in Lebanon, with 34% of participants found to have raised blood pressure, a figure consistent with the 2017 STEPS estimate of 35.3%. Although these findings show stability over time, the 2024 prevalence remains lower than estimates reported in recent national literature, where a pooled analysis of six studies conducted between 2018 and 2023 indicated that 41% of Lebanese adults had elevated blood pressure (95% CI: 31%–52%; median 39.5% [IQR 29%–52%]). The included studies had a minimum sample size of 362, calculated based on global hypertension prevalence. Compared to neighbouring countries, Lebanon continues to exhibit the highest burden of raised blood pressure. Regional STEPS data show lower prevalence estimates in Egypt (29.5%, 2017) and Jordan (22.1%, 2019).

In terms of screening, 34.0% of the total sample reported never having had their blood pressure measured, with nearly half of Syrian males (48.6%) reporting no prior blood pressure measurement compared with 35.6% of Lebanese counterparts. To note that 70% of the Syrian sample was younger than 45 years of age versus 37% of the Lebanese sample. Screening rates are similar between Lebanon and Jordan (2019 STEPS survey showing 31% had never been screened).

Regarding diagnosis, 22.2% of respondents reported ever being told they had raised blood pressure, with 12.4% diagnosed within the past year. These values remain similar to 2017 STEPS data showing 11.8% diagnosed in the past 12 months, suggesting stable detection rates.

In terms of treatment and control rates, among all individuals with raised blood pressure (measured or diagnosed or reported being on medications), 52.5% were not taking medication, and only 23.6% had

controlled blood pressure. Jordan's STEPS 2019 data shows that 48% were not taking medication, and 32% had controlled blood pressure. This indicates broadly comparable treatment trends across both countries, though blood pressure control appears to be somewhat better in Jordan.

Overall, the findings of the 2024 STEPS underscore the need for sustained targeted efforts to strengthen prevention, detection, and management of raised blood pressure.

Raised total blood cholesterol

The findings on cholesterol screening show that around two-thirds of adults (66.1%) reported never having had their blood cholesterol measured, a proportion largely unchanged since 2017 STEPS data (68.7%). While Lebanon's findings are slightly better than Jordan's 2019 STEPS, where 76% had never had their blood cholesterol measured, screening coverage in both countries remains low.

When asked about ever being diagnosed with raised total cholesterol, only 16.6% reported a diagnosis (7.9% not in past 12 months; 8.7% in past 12 months). This figure is more than double that of Jordan's 2019 STEPS estimate (7%), suggesting either a higher underlying burden in Lebanon or better detection among those who do access care.

In terms of treatment, among those who reported having been diagnosed with raised cholesterol, 60.3% reported taking lipid-lowering treatment, a figure that has declined compared with 2017 STEPS data (73.4%). Compared with Jordan's 2019 data (64%), Lebanon's treatment coverage is broadly similar.

The downward trend since 2017 may reflect disruptions in care continuity, affordability challenges, and reduced access to laboratory services and medicines during Lebanon's prolonged economic crisis. Overall, these findings point to missed opportunities for early detection and management of dyslipidaemia, a key risk factor for cardiovascular disease.

Raised lipid profile: findings from biochemical data

Biochemical results from the 2024 STEPS survey show that overall, the mean total cholesterol level was 167.9 mg/dL, 32.4% of adults had raised total cholesterol (≥ 190 mg/dL or on lipid-lowering medication). These figures are lower than the 2017 STEPS results, where mean total cholesterol was 208 mg/dL and 65% of adults had levels ≥ 190 mg/dL. The 2024 STEPS estimate follows the trend with national published literature, which reports a pooled estimate of lipid disorders of 25% (95% CI: 12%–38%) and a median of 25% [IQR 24%–46%] based on three studies conducted between 2018 and 2023^{46,47} with a minimum sample size of 383, computed based on the prevalence of impaired lipid profile globally. In addition, Lebanon's current prevalence remains higher than in neighbouring countries: Jordan (2019) reported 17.7% above 190 mg/dL, and Egypt (2017) reported 19.2%.

Patterns of dyslipidaemia were also reflected in LDL indicators. The mean LDL cholesterol level was 97.8 mg/dL, and 15.0% of adults had LDL ≥ 130 mg/dL, with 5.6% reporting very high LDL (≥ 160 mg/dL). LDL levels were broadly comparable between males and females; however, among females aged 45 years and older, elevated LDL became slightly more common than among males, underscoring the importance of strengthening cardiovascular health interventions for females, particularly in midlife and beyond.

Triglyceride levels remain a concern. Mean fasting triglycerides were 132.4 mg/dL, and 28.2% of adults had values ≥ 150 mg/dL, with nearly 1 in 5 remaining above the higher threshold of ≥ 180 mg/dL. Although these figures are slightly lower than Lebanon's 2017 levels (33.7% ≥ 150 mg/dL; 20.8% ≥ 180 mg/dL), they remain comparable to regional findings such as Jordan (25.7% ≥ 150 mg/dL).

⁴⁶ Nasrallah, M. P., Nakhle, S., Koussa, S., Isma'eel, H., Nemer, G., & El-Yazbi, A. (2017). Prevalence of cardiovascular risk factors and metabolic syndrome in Lebanese adults: A cross-sectional study. *BMC Public Health*, 17, 769. <https://doi.org/10.1186/s12889-017-4779-3>

⁴⁷ Gebara, N., Abdel-Massih, T., Sahakian, J.-P., Sleilaty, G., Bazzi, M., Ashoush, R., & Jebara, V. (2023). Unconventional cardiovascular risk factors and Systematic Coronary Risk Estimation (SCORE) in the Lebanese rural population: The forgotten factors. *Vascular Health and Risk Management*, 19, 507–517. <https://doi.org/10.2147/VHRM.S411864>

Cardiovascular Diseases (CVD)

Self-reported prevalence of cardiovascular conditions shows a notable increase since 2017. In the current survey, 8.5% of adults reported having experienced a heart attack, angina, or stroke, compared to 4.7% in 2017. Although self-report is subject to recall bias, this doubling warrants further exploration. Lebanon's figure is also slightly higher than Jordan's 2019 estimate (7%).

In terms of taking medications (aspirin or statins) to prevent or treat heart disease, 14.3% of adults reported taking aspirin, and 11.1% reported taking statins regularly. The 2024 levels increased from 2017 (8.4% taking aspirin; 8.1% taking statins), mirroring the increase in percentage of population reporting experiencing a heart attack, angina, or stroke. Lebanese respondents were more likely to be taking aspirin (16.2%) or statins (12.9%) compared to Syrians (7.6% and 4.9%, respectively). This pattern aligns with the observations in blood pressure and cholesterol management, noting that 70% of the Syrian sample was younger than 45 years of age versus 37% of the Lebanese sample.

Cardiovascular disease risk

The assessment of 10-year cardiovascular disease risk among adults aged 40–69 years using the WHO risk prediction model shows a high burden of CVD risk in Lebanon, with around 28.2% of adults aged 40–69 years having a 10-year CVD risk $\geq 20\%$ or existing CVD. Notably, 20.2% had a predicted 10-year risk of $\geq 20\%$, placing them in the high-risk category.

Overall, the high proportion of adults with elevated CVD risk reflects the cumulative effect of widespread hypertension, diabetes, dyslipidaemia, smoking, and obesity observed in this STEPS survey. These findings highlight the urgency of strengthening comprehensive cardiovascular prevention programs especially at the primary health care level.

Combined risk factors

The assessment of combined risk factors highlights a substantial clustering of modifiable cardiovascular disease (CVD) risks among adults in Lebanon. More than half of the population (56.5%) had three to five major risk factors, indicating a high cumulative exposure that significantly elevates long-term CVD risk. This is particularly alarming amongst the age category of 45–69, where this percentage increases to 72.3%. An additional 42.1% had one or two risk factors, leaving only a small proportion of adults with no measurable risk factors. This clustering intensified with age, reflecting the progressive accumulation of unhealthy behaviours and metabolic abnormalities across the life course. In 2017, 51.4% of participants had 3–5 risk factors, and amongst the age category of 45–69, this percentage was 63.1%.

When compared to regional data, Lebanon's burden appears considerably higher; in Jordan, 41% of adults were found to have three to five risk factors (STEPS 2019). Globally, Lebanon is amongst the countries with the highest percentage of people having 3–5 risk factors.

The high level of risk factor clustering underscores the urgent need for integrated prevention strategies that address multiple behaviours simultaneously, particularly smoking cessation, improved diet quality, increased physical activity, weight management, and better blood pressure control. These findings point to a population at high risk of future cardiovascular events and emphasize the importance of strengthening primary prevention efforts across all age groups.

Mental health

Findings from the STEPS 2024 survey reveal a substantial burden of mental health, where 25.8% of adults had depression in the past 12 months. Females were more affected than males (29.9% vs. 21.1%), and Syrians reported a higher prevalence than Lebanese residents (32.3% vs. 23.9%). This aligns with

previous research among Syrian refugees in Lebanon, where a 2021 study⁴⁸ reported a 22% prevalence of moderate to severe depressive symptoms.

In the current survey, depression was more common among younger and middle-aged adults. Findings from national studies, including recent telephone-based research in Lebanon reported that 47.8% of participants screened positive for probable depression,⁴⁹ though that sample overrepresented young adults (nearly half aged 18–34) and used a different assessment methodology.

Compared to countries in the region, Lebanon's depression estimate is higher than Jordan's 2019 STEPS figure (18.1%), though comparisons should be made cautiously due to variation in measurement tools. At the global level, WHO estimates that approximately 22% of people living in conflict-affected settings experience mental disorders, including depression, anxiety, PTSD, and others,⁵⁰ which is consistent with Lebanon's context of prolonged economic, social, and political instability. It should also be noted that the current survey measured depression only; therefore, the overall burden of mental disorders in Lebanon is likely underestimated.

Despite the substantial burden, and the ongoing work on reforming mental health services, treatment coverage remains low. Among those meeting criteria for depression, 82.5% had not taken any psychotropic medication in the past 12 months, and 92.7% had not received any psychological therapy or counselling. Even among those who did receive medication, treatment pathways were fragmented. While prescribing was most commonly done by psychiatrists (30.2%) and neurologists (26.8%), a notable proportion reported obtaining medication through informal providers, who are typically not allowed to prescribe psychotropic medications, including pharmacists (6%), traditional healers (4.6%), and psychologists (1.7%). What is mostly concerning is that 10% of those taking medications were self-medicated.

In addition to depression, the STEPS 2024 findings highlight a measurable burden of suicidal thoughts and behaviours in the population. Overall, 2.7% of adults reported seriously considering attempting suicide in the past 12 months, with higher levels among Syrians (3.8%) compared with Lebanese (2.4%). Suicidal ideation was relatively similar across age groups but consistently higher among Syrians in both sexes. Help-seeking among those with suicidal thoughts was limited: only one in four (25.1%) individuals who considered suicide sought professional support, with females slightly more likely to do so than males and younger age categories more than the older age groups. Help-seeking was higher among Syrians (37.6%) than Lebanese (18.2%), suggesting that although Syrians reported more distress, they may be more inclined to reach out when experiencing severe symptoms, or alternatively, may have more systematic exposure to non-governmental organization-supported mental health services.

These findings align with national service-use data. Insights from Lebanon's national emotional support and suicide prevention hotline,⁵¹ the Lifeline 1564 co-managed by the NMHP at MoPH and Embrace (local non-governmental organization), for the same data collection period of this study, indicate that the majority of callers are young adults aged 18–34 years, with females representing 54% of all calls. Additionally, Syrians account for 14% of callers, suggesting that both Lebanese and refugee communities actively reach out for help when experiencing acute distress.

In addition, 1.5% of adults had made a suicide plan in the past year, with higher prevalence among females. A total of 2.8% of adults reported ever attempting suicide, with attempts more frequent among Syrians (5.3%) than Lebanese (2.1%). Among those who had ever attempted suicide, half reported an attempt within the past year, indicating recent and ongoing vulnerability. Despite the severity of these behaviours,

48 Naal, H., Nabulsi, D., El Arnaout, N., Abdouni, L., Dimassi, H., Harb, R., & Saleh, S. (2021). Prevalence of depression symptoms and associated sociodemographic and clinical correlates among Syrian refugees in Lebanon. *BMC Public Health*, 21, 217. <https://doi.org/10.1186/s12889-021-10266-1>

49 Karam, E. G., El-Jamal, M., Osman, R., Toukan, S., Mouawad, G. I., & Al Barathie, J. (2025). The aftermath of multiple trauma on a nation: Unraveling Lebanon's unique mental health struggle. *Frontiers in Psychiatry*, 15, 1444245. <https://doi.org/10.3389/fpsy.2024.1444245>

50 New WHO prevalence estimates of mental disorders in conflict settings: a systematic review and meta-analysis

51 Lebanon's National Helpline. (2024). Lifeline quarterly report: January–March 2024. Embrace Lebanon. <https://embracelebanon.org/wp-content/uploads/2025/10/0aeacfd6-86d4-4f1a-abfb-be9bbdabd27f.pdf>

only 25.1% of individuals who attempted suicide in the past 12 months sought medical care. This may reflect the stigma surrounding suicide in Lebanon. Findings from study in Jordan among female Syrian refugees showed a higher reported prevalence of suicide attempts (9.66% ever attempted, 2.76% in the past six months), which may reflect differences in context, including camp-based populations and varying access to support, whereas in Lebanon, Syrian refugees in this survey were community residents and national helplines and psychosocial services may have provided some additional avenues for support.

Overall, the STEPS findings reinforce evidence that Lebanon faces an increased and multifaceted mental health burden, affecting both host and refugee communities. This reflects the need to continue regulating mental health service provision in addition to strengthening community-based mental health care, integrating mental health into primary health care, strengthening suicide prevention efforts, and reducing stigma, which are among the priorities in the National Mental Health Strategy for Lebanon.⁵²

Behavioural risk factors

Among the behavioural risk factors assessed, tobacco use stands out as the most critical. Smoking rates have risen dramatically, with increasing prevalence among females and youth, particularly in the form of *arguileh*. Exposure to second-hand smoke is widespread, making it difficult for non-smokers to avoid harm. In parallel, poor dietary habits, excessive salt intake, and physical inactivity, particularly among females, contribute to high levels of overweight and obesity, reinforcing a pattern of clustered metabolic risk.

Despite the high burden of modifiable risks, less than 50% of participants reported receiving any lifestyle advice related to tobacco cessation, healthy eating, physical activity, or alcohol reduction. This points to missed opportunities within the health care system to promote preventive behaviours and support individuals in adopting healthier habits.

Improving health literacy and self-management skills is essential to enabling sustainable behavioural change. Empowering individuals to better understand and take control of their health can significantly strengthen both prevention and management of noncommunicable diseases. Integrating these elements into health care delivery and community programs is key to reversing current trends and reducing long-term disease burden.

Comparative burden across NCD Risk Factors and conditions

The 2024 STEPS survey reveals a consistent and concerning pattern across major noncommunicable disease (NCD) risk factors and outcomes in Lebanon, with several indicators showing higher burdens than those reported in neighbouring countries. When raised blood pressure, raised fasting blood glucose, lipid abnormalities, and cardiovascular disease are examined together, clear gradients emerge regarding which conditions are increasing most rapidly and which remain most widespread.

Raised blood glucose and impaired fasting glycaemia appear to be the most rapidly escalating metabolic abnormalities. Fasting glucose levels have shifted upwards since 2017, with marked increases in impaired fasting glycaemia and in the proportion of adults meeting criteria for raised blood glucose, particularly among those aged 45–69 years. Across fasting glucose, HbA1c, and age-stratified estimates, Lebanon's burden is consistently higher than that reported in recent STEPS surveys from Jordan and Egypt and aligned with national studies, indicating that diabetes has become a leading driver of cardiometabolic risk in the country.

Raised blood pressure remains one of the most prevalent cardiovascular risk factors, with levels that are higher than those documented in neighbouring countries. Although overall prevalence has not changed substantially since 2017, a large proportion of adults remain undiagnosed, untreated, or not controlled to target. Similar patterns are observed for lipid abnormalities. Despite some improvement in mean lipid levels since the previous STEPS round, screening coverage remains low, treatment of raised total

⁵² Ministry of Public Health. 2024. National Mental Health Strategy for Lebanon (2024-2030)- Reforming the mental health system. Beirut: Lebanon.

cholesterol has declined, and the prevalence of raised total cholesterol and triglycerides continues to exceed estimates from Jordan and Egypt.

These risk profiles are reflected in downstream outcomes. Self-reported cardiovascular disease events (heart attack, angina, stroke) have almost doubled since 2017, and a substantial proportion of adults aged 40–69 years meet criteria for high 10-year cardiovascular risk or have existing cardiovascular disease. Risk-factor clustering is pronounced: more than half of adults have three to five major cardiovascular risk factors, with even higher clustering in older age groups. This indicates that raised blood pressure, raised blood glucose, lipid abnormalities, excess adiposity, and tobacco use frequently coexist, rather than occurring in isolation.

Taken together, these patterns suggest that raised blood glucose is the most rapidly worsening metabolic condition, raised blood pressure and excess weight remain the most pervasive risk factors, and cardiovascular disease is increasing in parallel with persistent gaps in detection, treatment, and control. Overall, the findings point to the need for an integrated NCD response that strengthens early risk detection, improves equitable access to essential investigations and medicines, and embeds comprehensive cardiovascular prevention within primary health care, rather than relying on fragmented, disease-specific approaches.

Cervical cancer screening

The 2024 STEPS results show that 18.6% of females ever screened for cervical cancer. Among the high-risk group of 30–49 years, the rate of screening is slightly higher, 21.7%. These values are slightly higher than the STEPS 2017 findings which reported that 17.1% of females ever screened for cervical cancer and 18.0% of females aged 30–49 years. Despite being low, these rates are among the highest in the region.

Lebanese females were more than twice as likely as Syrian females to have been screened. Cultural factors play a significant role in shaping screening behaviours in Lebanon. Cervical cancer screening is often associated with sexual activity, which may deter unmarried females due to concerns about stigma, privacy, and fear of judgment.⁵³ In more conservative communities, particularly among refugees and lower-income groups, discussing reproductive health openly may be considered inappropriate, limiting awareness of screening recommendations and available services. Additionally, many females rely on gynaecological care only during pregnancy, reducing opportunities for routine screening outside the maternal health context.

Among those who had ever been screened, fewer than half (39.7%) did so routinely, underscoring gaps in follow-up and continuity of preventive care. Compared with Jordan, where only 12% of females aged 30–49 had ever been screened (STEPS 2019), Lebanon performs slightly better but remains below international targets. These findings highlight the need for public education on cervical cancer and the importance of routine screening, as well as the expansion of culturally sensitive outreach efforts, integration of screening into primary health care, and improved access for vulnerable groups, including refugees and females with limited financial or social support.

Health seeking behaviours

The addition of a health seeking behaviour module for Lebanon in the 2024 STEPS survey offers insights into how adults in Lebanon access and utilize health services, especially in the context of the multifaceted crises that the country has been facing.

Outpatient consultations and medications were the most frequently needed services, while primary health care centres and dispensaries were the main source of routine care (47.2%), especially for Syrians (67.2%), while Lebanese were more likely to use private clinics and private hospitals.

⁵³ Ahmed, H. A. A., Abbas, M. H., Hussein, H. A. H., Nasr, R. S. F., Lashen, A. A., Khaled, H., & Azzam, A. (2024). Cervical cancer screening uptake in Arab countries: A systematic review with meta-analysis. BMC Cancer, 24, Article 1438. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11583763/?utm>

This pattern requires further exploration, as it may reflect a temporary shift driven by the removal of medication subsidies in the private market, while medications have remained available through PHC centres. Despite this, medication interruptions were common, affecting 21% of adults and rising to nearly one-third among those aged 45–69 years. Interruptions were driven primarily by medicine shortages, particularly among Lebanese, while Syrians more frequently reported affordability constraints. Coping strategies varied and included switching to generic medications as the most common response, resorting to reducing doses, stopping treatment, or obtaining medications from abroad. It is to note that this sample is characterized by a majority of female participants, from low- to middle-socio-economic backgrounds, homemakers, self-employed or unemployed, who are known to be the common service users of primary health care centres.

In terms of access to health services, around 16% were not able to access health services they needed in the past year, highlighting the need to better understand who remains excluded from the health system.

Affordability remains a common obstacle, affecting more than one in four adults, followed by service availability. These constraints mirror Lebanon's ongoing economic crises, rising out-of-pocket payments, and disruptions in health system capacity.

Overall, the findings underscore the need for sustained investment in ensuring access to health services with a focus on primary care and community-based services, affordable medicines, and measures to protect vulnerable populations from catastrophic health expenditures.

Strengths and limitations

The 2024 STEPS survey offers several notable strengths that enhance the credibility and policy relevance of its findings. First, it provides a nationally representative sample of adults aged 18–69 years, covering both Lebanese and Syrian populations and ensuring comparability with previous STEPS surveys and international benchmarks. The timing of the survey is also a key strength: data collection occurred during a critical juncture in Lebanon's ongoing crisis and was completed despite the onset of the October 2023 conflict, offering one of the most timely and comprehensive snapshots of population health amidst overlapping emergencies.

The 2024 round also introduced new modules not previously included in Lebanon's STEPS surveys, such as mental health (including depression and suicide), health seeking behaviours, and violence and injuries. These additions provide the first-ever nationally representative baseline for several priority areas, particularly suicide ideation and attempts. Collectively, these expanded modules significantly strengthen the evidence base for multisectoral action and allow for more integrated NCD–mental health policy planning.

Several limitations, however, should be considered when interpreting the findings. Security restrictions in a limited number of clusters may have slightly affected geographic coverage, and although Syrian participants were included proportionally, those residing in informal settlements are not captured. In addition, although Step 1 achieved a 67% response rate, participation declined in Steps 2 and 3, particularly for biological sample collection. This may introduce selection bias if individuals who declined differ systematically from participants in terms of health status, health seeking behaviour, or socio-economic vulnerability.

Several key indicators, including tobacco use, alcohol consumption, dietary habits, and health seeking patterns, relied on self-reported data, which are inherently subject to recall bias and social desirability bias. This is particularly relevant for sensitive behaviours (e.g., depression and suicide; cervical cancer screening, etc.) and may lead to underreporting among certain groups. In addition, as a cross-sectional survey, the STEPS captures associations but cannot determine causality.

The survey was also conducted during a period of profound economic instability, which has sharply impacted household income, food security, medication availability, and access to health services. These contextual factors may have influenced reported behaviours and health service use, potentially reflecting a transitional phase rather than a stable, long-term situation.

Nonetheless, the STEPS methodology remains robust and offers the most comprehensive findings available to inform Lebanon's NCD prevention and control strategies.

5. Conclusion

The 2024 STEPS survey points to a concentrated burden of NCD risk in Lebanon, combining modifiable behavioural factors (tobacco use, high salt intake, unhealthy diet, insufficient physical activity), adverse biochemical profiles (raised blood glucose and impaired fasting glycaemia, dyslipidaemia) and elevated physical measurements (raised blood pressure, overweight and obesity), with several indicators higher than those observed in the last STEPS 2017 survey and neighbouring countries such as Jordan and Egypt.

Taken together, the findings point to raised blood glucose as the most rapidly increasing metabolic condition, elevated blood pressure as the most pervasive cardiovascular risk factor, and cardiovascular disease as an outcome increasing in response to long-standing gaps in prevention, detection, and control. Persistently high levels of overweight and obesity, central adiposity, adverse lipid profiles, high salt intake, and low fruit and vegetable consumption further reinforce this cardiometabolic risk profile. However, tobacco use, including the marked increase in cigarette and waterpipe/arguileh smoking and the particularly high prevalence among females and younger adults, appears especially concerning. These patterns in both Lebanese and Syrian populations highlight the need for an integrated response that gives particular priority to tobacco control, alongside other behavioural and metabolic risk factors. Strengthening prevention, primary health care, and secondary prevention, and ensuring access to essential NCD and mental health services, will be critical to reversing current trends.

Overall, the 2024 STEPS survey provides an updated national baseline to guide the development of a multisectoral NCD prevention and control plan and future Universal Health Coverage reforms in Lebanon. The findings can support the prioritization of context-appropriate and feasible interventions, grounded in evidence such as the WHO Best Buys for NCDs, and offer a benchmark for monitoring their implementation and impact over time. Ensuring that these responses are people-centred, financially accessible, and tailored to the needs of the population will be essential to reversing current trends and limiting the future burden of cardiovascular disease and other NCDs.

6. Recommendations

The STEPS survey highlights persistently high exposure to modifiable risk factors, widespread clustering of multiple NCD risks, and inequities by sex, age, and nationality. To address these challenges, a comprehensive and multisectoral response is required. The recommendations below are grouped around key domains of prevention, health promotion, and service delivery, informed by global evidence such as the WHO Best Buys and the specificities of the Lebanese context.

Strengthen tobacco prevention, control and cessation support

- › Enforce full implementation of the national tobacco-control law (Law 174), including bans on indoor smoking, advertising, and promotion in all public and private venues.
- › Reinforce the implementation of large graphic health warnings on all tobacco packages, accompanied by plain/standardized packaging.
- › Increase taxes and prices on tobacco products, which will allow financing of NCD interventions, in line with the National NCD multisectoral action plan, specifically tobacco-related.
- › Ensure access to cost-covered evidence-based tobacco cessation support to all tobacco users, including brief advice in primary health care and other effective population-wide cessation interventions.
- › Develop audience-specific media campaigns, with messaging tailored to gender- and youth, to prevent initiation and promote quitting, especially addressing waterpipe/arguileh and emerging products such as heated tobacco and e-cigarettes.

Promote healthy lifestyle including diet and physical activity

- › Reduce salt intake by:
 - » Product reformulation and setting targets for the amount of salt in foods and meals particularly in bread, processed foods, and restaurant meals;
 - » Promoting behaviour change through mass media campaigns with a focus on raising knowledge about hidden salt in processed foods, encouraging label reading and low-sodium alternatives.
- › Collaborate with agricultural and trade sectors to increase the affordability and availability of fresh fruits and vegetables through price subsidies, farmers' markets, and local procurement for schools.
- › Integrate healthy lifestyle counselling (diet and physical activity) within PHC visits, targeting prevention and management of NCDs and their dietary risk factors.
- › Promote physical activity and the reduction of sedentary behaviour through mass media campaigns and other community and school-based education, motivational, and environmental programs.

Additionally, considering the findings of the STEPS 2024 related to the biochemical and physical indicators, the following interventions are recommended:

- › Strengthen the implementation of the trans-fatty acids legislation.
- › Implementing front-of-pack labelling.
- › Raise taxes on sugar-sweetened beverages to reduce sugar consumption.

Strengthen prevention and management of NCDs and mental health

- › Provide pharmacological therapy and counselling for eligible persons at high-risk to prevent and manage NCDs.
- › Strengthen the integration of NCD risk assessment, early detection, and counselling into PHC consultations using national protocols.
- › Ensure continuous availability and affordability of essential medicines for NCDs.

- › Strengthen the expansion of community-based mental health services.
- › Establish a national suicide-surveillance system.
- › Ensure continuity of national anti-stigma campaigns and community awareness to normalize seeking help.
- › Strengthen collaboration between health and social-protection services to address stressors related to poverty, displacement, and unemployment.
- › Strengthen cervical cancer prevention, screening, and early diagnosis:
 - » Screening starting at the age of 30 years, with regular screening;
 - » Vaccination against human papillomavirus (1 or 2 doses) of girls aged 9–14 years;
 - » Early diagnosis programs linked with timely diagnostic work-up and comprehensive cancer treatment.

Strengthen policies for alcohol control

- › Increase excise taxes on alcoholic beverages.
- › Enforce age restrictions and licensing regulations for alcohol sales and consumption.
- › Enact and enforce bans or comprehensive restrictions on exposure to alcohol advertising (across multiple types of media).
- › Provide brief psychosocial intervention for persons with hazardous and harmful alcohol use.
- › Promote media campaigns for behaviour change, especially among the youth age category.

Strengthen governance, multisectoral coordination, surveillance and research

- › Advocate for the establishment of a funded NCD unit at the Ministry of Public Health.
- › Institutionalize regular NCD monitoring and surveillance, including conducting the STEPS surveys every five years to monitor trends and guide national policy, in addition to facility-based monitoring.
- › Develop a research agenda, developed based on informational gaps, in close collaboration with academia.
- › Secure sustainable domestic and international financing for NCD prevention and control, with transparent monitoring of implementation.

Annex 1: Fact sheet by sex

The STEPS survey of noncommunicable disease (NCD) risk factors in Lebanon was carried out from November 2023 to February 2024. Lebanon carried out [Step 1](#), [Step 2](#) and [Step 3](#). Socio demographic and behavioural information was collected in [Step 1](#). Physical measurements such as height, weight and blood pressure were collected in [Step 2](#). Biochemical measurements were collected to assess blood glucose and cholesterol levels in [Step 3](#). The survey was a population-based survey of adults aged 18-69 years. A two-stage cluster sample design was used to produce representative data for that age range in Lebanon. A total of 2,908 adults participated in the survey. The response rates out of the target sample (4,320) for Steps 1, 2, and 3 were 67%, 66%, 62%, respectively.

The survey population comprised 76.7% Lebanese, 21.4% Syrians, and 1.9% of other nationalities. Overall, 36.2% were males and 63.8% females, with a median age of 47 years (51 among Lebanese, 38 among Syrians). The median years of schooling were 9, reflecting higher educational attainment among Lebanese. Most participants were married (63.9%), and 42.8% reported employment in the past year.

Results for adults aged 18-69 years (incl. 95% CI)	Both sexes	 Males	 Females
Step 1 Tobacco use			
Percentage who currently smoke tobacco	52.1% (49.0 - 55.2)	60.5% (56.4 - 64.5)	44.6% (40.4 - 48.9)
Percentage who currently smoke tobacco daily	41.1% (38.2 - 44.0)	50.0% (45.7 - 54.2)	33.1% (29.8 - 36.5)
Among daily smokers			
Mean age of smoking initiation (years)	20.2 (19.6 - 20.8)	18.5 (17.9 - 19.1)	22.5 (21.6 - 23.4)
Mean duration of smoking (years)	21.1 (19.8-22.5)	21.1 (19.3-22.8)	21.3 (19.5-23.1)
Percentage of daily smokers smoking manufactured cigarettes	68.3% (63.7 - 72.6)	76.8% (70.8 - 81.9)	56.9% (50.8 - 62.7)
Mean amount of manufactured cigarettes smoked per day (by smokers of manufactured cigarettes)	15.1 (13.8 - 16.4)	18.4 (16.6 - 20.2)	10.5 (9.2 - 11.9)
Step 1 Alcohol consumption			
Percentage who are lifetime abstainers	81.8% (78.9 - 84.3)	76.7% (72.1 - 80.7)	86.4% (83.2 - 89.0)
Percentage who are past-12-month abstainers	1.7% (1.0 - 2.7)	2.9% (1.7 - 5.0)	0.6% (0.3 - 1.0)
Percentage who currently drink (drank alcohol in the past 30 days)	13.6% (11.4 - 16.3)	17.1% (13.6 - 21.3)	10.5% (8.1 - 13.6)
Percentage who drink (drank alcohol in the past 12 months) ¹	16.6% (14.0-19.5)	20.4% (16.5-25.1)	13.1% (10.5-16.2)
Percentage who engage in heavy episodic drinking (6 or more drinks on any occasion in the past 30 days)	1.7% (0.9 - 3.3)	3.2% (1.5 - 6.5)	0.5% (0.2 - 1.6)

¹ This indicator is based on secondary analysis.

Results for adults aged 18-69 years (incl. 95% CI)	Both sexes	 Males	 Females
Step 1 diet			
Mean number of days fruit consumed in a typical week	4.5 (4.4 - 4.7)	4.6 (4.4 - 4.8)	4.4 (4.2 - 4.7)
Mean number of servings of fruit consumed on average per day	1.2 (1.1 - 1.2)	1.2 (1.1 - 1.3)	1.1 (1.0 - 1.2)
Mean number of days vegetables consumed in a typical week	5.1 (5.0 - 5.3)	5.1 (4.9 - 5.3)	5.1 (5.0 - 5.3)
Mean number of servings of vegetables consumed on average per day	1.3 (1.2 - 1.4)	1.3 (1.2 - 1.4)	1.3 (1.2 - 1.4)
Percentage who ate less than 5 servings of fruit and/or vegetables on average per day	90.5% (88.4 - 92.3)	90.4% (87.2 - 92.8)	90.6% (88.2 - 92.6)
Percentage who always or often add salt or salty sauce to their food before eating or as they are eating	36.0% (32.2 - 40.0)	38.2% (33.2 - 43.4)	34.0% (30.0 - 38.3)
Percentage who always or often eat processed foods high in salt	43.4% (38.7 - 48.1)	47.7% (42.1 - 53.4)	39.5% (34.5 - 44.7)
Step 1 Physical activity			
Percentage with insufficient physical activity (defined as < 150 minutes of moderate-intensity activity per week, or equivalent) ²	35.6% (32.0 - 39.4)	26.1% (21.8 - 30.9)	43.8% (39.7 - 47.9)
Median time spent in physical activity on average per day (minutes) (presented with inter-quartile range)	60.0 (2.1 - 231.4)	111.4 (17.1 - 321.4)	31.4 (0.0 - 128.6)
Percentage not engaging in vigorous activity	76.4% (73.3 - 79.3)	63.1% (58.0 - 67.9)	88.0% (85.4 - 90.2)
Step 1 Cervical cancer screening			
Percentage of females aged 30-49 years who have ever had a screening test for cervical cancer	21.7% (17.4 - 26.7)	<i>Not applicable</i>	21.7% (17.4 - 26.7)
Step 2 Physical measurements			
Mean body mass index - BMI (kg/m ²)	28.0 (27.7 - 28.3)	27.8 (27.2 - 28.4)	28.2 (27.8 - 28.6)
Percentage who are overweight (BMI ≥ 25 kg/m ²)	67.0% (64.2 - 69.7)	68.6% (63.6 - 73.2)	65.5% (62.5 - 68.5)
Percentage who are obese (BMI ≥ 30 kg/m ²)	32.1% (29.6 - 34.6)	30.5% (26.5 - 34.8)	33.5% (30.5 - 36.6)
Mean waist circumference (cm) ³		98.0 (96.4 - 99.6)	91.9 (90.7 - 93.1)

² For complete definitions of insufficient physical activity, refer to the GPAQ Analysis Guide (<https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/physical-activity-surveillance>) or to the WHO Global recommendations on physical activity for health (<https://www.who.int/news-room/fact-sheets/detail/physical-activity>).

³ This indicator is based on secondary analysis.

Results for adults aged 18-69 years (incl. 95% CI)	Both sexes	 Males	 Females
Percentage with elevated waist circumference (for males ≥ 94 cm; for females ≥ 80 cm)		59.9% (56.5 – 66.5)	77.7% (76.1 – 81.5)
Mean systolic blood pressure - SBP (mmHg), including those currently on medication for raised BP	125.9 (124.8 - 126.9)	129.4 (127.9 - 130.9)	122.8 (121.5 - 124.1)
Mean diastolic blood pressure - DBP (mmHg), including those currently on medication for raised BP	79.0 (78.3 - 79.7)	79.5 (78.5 - 80.5)	78.5 (77.7 - 79.4)
Percentage with raised blood pressure (SBP ≥ 140 and/or DBP ≥ 90 mmHg or currently on medication for raised BP)	34.0% (31.5 - 36.5)	35.9% (32.1 - 39.8)	32.3% (29.4 - 35.3)
Percentage with raised blood pressure on medication	47.5% (43.4 - 51.6)	44.6% (38.2 - 51.0)	50.3% (45.7 - 54.9)
Percentage with raised controlled blood pressure	23.6% (20.5 - 27.0)	20.2% (15.8 - 25.6)	27.0% (23.4 - 31.0)
Step 3 Biochemical measurements			
Mean fasting blood glucose, including those currently on medication for raised blood glucose [mg/dL]	104.1 (102.0 - 106.2)	105.1 (101.8-108.5)	103.2 (100.9 -105.6)
Percentage with raised FBG as defined below or currently on medication for raised blood glucose: • <i>plasma venous value ≥ 7.0 mmol/L (126 mg/dL)</i> • <i>capillary whole blood value ≥ 5.6 mmol/L (100 mg/dL) and < 6.1 mmol/L (110 mg/dL)</i>	11.6% (9.9 - 13.6)	12.1% (9.3 - 15.5)	11.2% (9.2 - 13.5)
Percentage with raised FBG as defined below or currently on medication for raised blood glucose: • <i>plasma venous value ≥ 7.0 mmol/L (126 mg/dL)</i> • <i>capillary whole blood value ≥ 6.1 mmol/L (110 mg/dL)</i>	17.4% (15.3 - 19.7)	19.2% (15.9 - 23.0)	15.8% (13.7 - 18.2)
Mean total blood cholesterol, including those currently on medication for raised cholesterol [mg/dL]	167.9 (164.4-171.4)	162.6 (157.0 -168.2)	172.4 (169.1 – 175.8)
Percentage with raised total cholesterol (≥ 5.0 mmol/L or ≥ 190 mg/dL or currently on medication for raised cholesterol)	32.4% (29.4 – 35.4)	28.9% (24.4 – 33.8)	35.3% (31.8 – 39.0)
Mean High Density Lipoprotein (HDL) [mg/dL]	51.8 (50.5-53.2)	47.8 (46.2-49.4)	55.3 (53.8-56.9)
Mean Low Density Lipoprotein (LDL) [mg/dL]	97.8 (95.4-100.2)	97.0 (93.5-100.6)	98.5 (96.0-101.1)
Percentage of respondents with LDL ≥ 3.4 mmol/L or ≥ 130 mg/dL	15.0% (12.7-17.5)	15.5% (12.3-19.4)	14.5% (12.2-17.1)
Mean fasting triglycerides [mg/dL]	132.4 (127.6-137.2)	138.4 (131.8-144.9)	127.2 (121.5-132.9)

Results for adults aged 18-69 years (incl. 95% CI)	Both sexes	 Males	 Females
Percentage of population with raised fasting triglycerides ≥ 1.7 mmol/L or ≥ 150 mg/dL	28.2% (25.2 - 31.3)	30.0% (26.1 - 34.3)	26.5% (22.9 - 30.5)
Mean intake of salt per day (in grams)	9.0 (8.8 - 9.1)	10.3 (10.0 - 10.5)	7.8 (7.6 - 8.0)
Cardiovascular disease risk			
Percentage aged 40-69 years with a 10-year CVD risk $\geq 20\%$, or with existing CVD ⁴	28.2% (25.3 - 31.3)	30.7% (26.1 - 35.8)	26.1% (23.0 - 29.4)
Summary of combined risk factors			
Percentage without any risk factors ⁵	1.4% (0.7 - 2.7)	1.0% (0.4 - 2.1)	1.8% (0.8 - 3.7)
Percentage with three or more of the risk factors, aged 18 to 44 years	46.2% (41.7 - 50.7)	49.6% (42.4 - 56.9)	43.1% (38.1 - 48.2)
Percentage with three or more of the risk factors, aged 45 to 69 years	72.3% (69.1 - 75.3)	72.8% (68.4 - 76.7)	71.9% (67.2 - 76.1)
Percentage with three or more of the risk factors, aged 18 to 69 years	56.5% (53.4 - 59.6)	58.7% (53.7 - 63.5)	54.6% (50.9 - 58.2)
Mental health			
Prevalence of depression over the past 12 months	25.8% (22.6 - 29.2)	21.1% (17.2 - 25.7)	29.9% (26.3 - 33.9)
Percentage of those with depression over the past 12 months, who are receiving any therapy	18.8% (14.9 - 23.4)	12.7% (7.5 - 20.6)	22.7% (17.5 - 28.9)
Percentage of the population who considered attempting suicide during the past 12 months	2.7% (2.0 - 3.8)	2.3% (1.3 - 4.0)	3.1% (2.1 - 4.6)
Percentage of the population who ever attempted suicide	2.8% (1.4 - 5.6)	2.6% (1.1 - 5.7)	3.1% (1.5 - 6.3)



For additional information, please contact: WHO Lebanon Country Office, emwroleb@who.int

WHO STEPS chronic disease risk factor surveillance:

<https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps>

⁴ A 10-year CVD risk of $\geq 20\%$ is defined according to age, sex, blood pressure, smoking status (current smokers), total cholesterol, and previously diagnosed diabetes.

⁵ Risk factors include: current daily smoking, less than five servings of fruit and/or vegetables per day, not meeting WHO recommendations on physical activity for health (<150 minutes of moderate activity per week, or equivalent), overweight or obese ($\text{BMI} \geq 25 \text{ kg/m}^2$), raised blood pressure ($\text{SBP} \geq 140$ and/or $\text{DBP} \geq 90 \text{ mmHg}$ or currently on medication for raised BP).

Annex 2: Tobacco fact sheet by sex

The WHO STEPwise approach to surveillance (STEPS) is a simple, standardized method for collecting, analysing and disseminating data on noncommunicable diseases (NCDs) and risk factors. Data are collected on the established risk factors and NCD conditions that determine the major NCD burden, including tobacco use, harmful use of alcohol, unhealthy diet, insufficient physical activity, overweight and obesity, raised blood pressure, raised blood glucose, and abnormal blood lipids. Data from STEPS surveys can be used by countries to help monitor progress in meeting the global voluntary targets related to specific risk factors such as tobacco, alcohol, diet and physical inactivity. The tobacco indicators from STEPS can be used to evaluate and monitor existing tobacco-control policies and programs.¹

The STEPS survey on noncommunicable disease (NCD) risk factors in Lebanon was carried out between November 2023 and February 2024. The STEPS survey in Lebanon was a population-based survey of adults aged **18-69**. A two-stage cluster sample design was used to produce representative data for that age range in Lebanon. Survey information was collected electronically using handheld devices. A total of **2,908** adults participated in the Lebanon STEPS survey. The response rates were for Steps 1, 2 and 3; **67%, 66%, 62%**, respectively.

The survey population comprised **76.7%** Lebanese, **21.4%** Syrians, and **1.9%** of other nationalities. Overall, **36.2%** were males and **63.8%** females, with a median age of **47 years** (**51** among Lebanese, **38** among Syrians). The median years of schooling were **9**, reflecting higher educational attainment among Lebanese. Most participants were married (**63.9%**), and **42.8%** reported employment in the past year.

Highlights



Tobacco use

- › **60.5%** of males, **44.6%** of females, and **52.1%** overall were current smokers of tobacco.
- › Proportion of composite tobacco products: total **50.5%**, males **58.3%**, females **43.4%**.



Cessation

- › About **2 in 10** current smokers tried to stop smoking in the last 12 months.
- › About **4 in 10** current smokers were advised by a health care provider to stop smoking in the last 12 months.



Second-hand smoke

- › **58.8%** of adults were exposed to tobacco smoke at the workplace.
- › **70.1%** of adults were exposed to tobacco smoke at home.



Media

- › About **4 in 10** adults noticed anti-cigarette smoking information on the television.
- › About **3 in 10** adults noticed cigarette marketing in stores where cigarettes are sold.

¹ Tobacco questions are drawn from the Tobacco Questions for Surveys (TQS) <https://www.who.int/publications/i/item/9789241500951>

Results for adults aged 18-69 years (incl. 95% CI)	Both sexes	 Males	 Females
Tobacco use			
Current tobacco users (smoked and/or smokeless)²			
Current tobacco users	52.7% (49.6 – 55.8)	61.6% (57.7 – 65.4)	44.7% (40.5 – 49.0)
Current daily tobacco users	41.3% (38.4 – 44.2)	50.3% (46.1 – 54.5)	33.1% (29.8 – 36.5)
Current tobacco smokers			
Current tobacco smokers	52.1% (49.0 – 55.2)	60.5% (56.4 – 64.5)	44.6% (40.4 – 48.9)
Current cigarette smokers ³	31.7% (29.2 – 34.4)	42.7% (38.4 – 47.2)	21.8% (19.3 – 24.5)
Current daily tobacco smokers	41.1% (38.2 – 44.0)	50.0% (45.7 – 54.2)	33.1% (29.8 – 36.5)
Current daily cigarette smokers	53.5% (48.8 – 58.1)	62.8% (56.4 – 68.7)	42.1% (36.9 – 47.5)
Average age started tobacco smoking (years)	20.2 (19.6 – 20.8)	18.5 (17.9 – 19.1)	22.5 (21.6 – 23.4)
Average number of manufactured cigarettes smoked per day (among daily cigarette smokers)	15.1 (13.8 – 16.4)	18.4 (16.6 – 20.2)	10.5 (9.2 – 11.9)
Current smokeless tobacco users			
Current smokeless tobacco users	1.0% (0.6 – 1.8)	1.5% (0.8 – 2.8)	0.6% (0.2 – 1.5)
Current daily smokeless tobacco users	0.2% (0.1 – 0.8)	0.5% (0.1 – 1.7)	0.1% (0.0 – 0.3)
Current non-users (smoked and/or smokeless)⁶⁰			
Former tobacco users ⁴	7.8% (6.4 – 9.5)	9.1% (6.8 – 12.1)	6.7% (5.2 – 8.5)
Former tobacco smokers ⁵	7.7% (6.3 – 9.4)	9.0% (6.7 – 12.0)	6.6% (5.1 – 8.4)
Never users	39.5% (36.1 – 42.9)	29.3% (25.4 – 33.6)	48.6% (44.4 – 52.8)

² Current use refers to daily and less than daily use.

³ Includes manufactured cigarettes and hand-rolled cigarettes. Adapted for other products as per country situation.

⁴ Current non-users.

⁵ Current non-smokers.

Results for adults aged 18-69 years (incl. 95% CI)	Both sexes	 Males	 Females
Exposure to second-hand smoke			
Adults exposed to second-hand smoke at home*	70.1% (67.2 – 72.8)	70.8% (67.0 – 74.4)	69.4% (65.9 – 72.8)
Adults exposed to second-hand smoke in the closed areas in their workplace*	58.8% (54.6 – 62.9)	65.3% (59.9 – 70.3)	52.7% (47.7 – 57.6)
Tobacco cessation			
Current smokers who tried to stop smoking in past 12 months	24.3% (21.1 – 27.8)	26.6% (22.2 – 31.6)	21.5% (18.1 – 25.4)
Current smokers advised by a health care provider to stop smoking in past 12 months ⁶	43.8% (39.1 – 48.5)	47.2% (41.2 – 53.3)	39.9% (34.5 – 45.6)
Health warnings			
Adults who noticed anti-cigarette smoking information on the television*	36.7% (32.4 – 41.2)	34.8% (29.3 – 40.7)	38.4% (34.0 – 43.0)
Adults who noticed anti-cigarette smoking information in newspapers or magazines*	16.5% (12.8 – 21.0)	16.4% (12.0 – 22.2)	16.5% (12.8 – 21.1)
Tobacco advertisement and promotion			
Adults who noticed cigarette marketing in stores where cigarettes are sold**	25.9% (21.7 – 30.5)	30.9% (25.7 – 36.5)	21.4% (17.2 – 26.3)
Economics		Local Currency [Lebanese Pound]	
Cost of 100 packs of manufactured cigarettes as a percentage of per capita Gross Domestic Product (GDP) ⁷	20.5% (16.4 – 24.6)	22.0% (15.8 – 28.1)	18.0% (15.3 – 20.8)

Data presented in this fact sheet relate only to select tobacco indicators. Additional information on tobacco or other NCD risk factors from the survey is available from sources listed below.



For additional information, please contact: WHO Lebanon Country Office, emwroleb@who.int

WHO STEPS chronic disease risk factor surveillance:

<https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps>

⁶ Among those who visited a health care provider in past 12 months.

⁷ World Bank GDP for Lebanon 2022.

* During the past 30 days.

** Promotions include free cigarette sample, cigarettes at sale prices, coupons for cigarettes, free gifts upon purchase of cigarettes, clothing or other items with cigarette brand name or logo and cigarette promotions in mail. Adults refer to persons aged 18-69 years. Data have been weighted to be nationally representative of all males and females aged 18-69 years. Technical assistance for the survey was provided by the World Health Organization (WHO). This document has been produced with a partial grant from the CDC Foundation, with financial support from the Bloomberg Initiative to Reduce Tobacco Use, a program of Bloomberg Philanthropies. The contents of this document are the sole responsibility of the authors and can under no circumstances be regarded to reflect the positions of the CDC Foundation.

Annex 3: NCD STEPwise survey tool

WHO STEPS INSTRUMENT FOR NONCOMMUNICABLE DISEASE RISK FACTOR SURVEILLANCE

<LEBANON>

Survey Information

Location and Date	Response	Code
What is your nationality?	Lebanese 1 Syrian 2 Other 3	X1
Governorate name		I1a
District Name		I1b
Cadaster Name		I1c
Cluster ID		I2
Interviewer ID		I3

Consent and Name	Response	Code
Consent has been read and obtained	Yes 1 No 2 IF NO, END	I5
Time of interview (24 hour clock)	hrs mins	I7
Family Surname		I8
First Name		I9
Additional Information that may be helpful		
Contact phone number where possible		I10

Step 1 Demographic Information

CORE: Demographic Information		
Question	Response	Code
Sex (Record Male / Female as observed)	Male 1 Female 2	C1
What is your date of birth? Don't Know 77 77 7777	If Known, Go to C4 dd mm year	C2
How old are you?	Years	C3
In total, how many years have you spent at school and in full-time study (excluding pre-school)?	Years	C4

EXPANDED: Demographic Information		
What is the highest level of education you have completed?	Illiterate 1 Less than primary school (reads and writes) 2 Primary school completed 3 Elementary school completed 4 Intermediate school completed 5 Secondary school completed 6 University completed 7 Post graduate degree 8 Vocational degree 9 Refused 88	C5
What is your marital status ?	Never married 1 Currently married 2 Separated 3 Divorced 4 Widowed 5 Cohabiting 6 Refused 88	C7
Which of the following best describes your main work status over the past 12 months?	Government employee 1 Non-government employee 2 Self-employed 3 Daily workers / informal work 4 Non-paid (volunteers, interns) 5 Student 6 Homemaker / housewife 7 Retired 8 Unemployed (able to work) 9 Unemployed (unable to work) 10 Refused 88	C8
How many people older than 18 years, including yourself, live in your household?	Number of people	C9
Taking the past year , can you tell me what the average earnings of the household have been (in LBP)? (RECORD ONLY ONE, NOT ALL 3)	Per week Go to T1	C10a
	OR per month Go to T1	C10b
	OR per year Go to T1	C10c
	Refused 88	C10d
Please specify if the amount given as the average earnings of the household is in thousands or millions (in LBP)?	Thousands 1	C10X
	Millions 2	
If you don't know the amount, can you give an estimate of the annual household income if I read some options to you? The amounts that I will read out to you are in millions, is it (READ OPTIONS)	Less than 1 million LBP 1 From 1 million LBP to less than 5 million LBP 2 From 5 million LBP to less than 10 million LBP 3 From 10 million LBP to less than 15 million LBP 4 From 15 million LBP to less than 25 million LBP 5 From 25 million LBP to less than 35 million LBP 6 From 35 million LBP to less than 50 million LBP 7 From 50 million LBP to less than 75 million LBP 8	C11

	From 75 million LBP to less than 100 million LBP	9	
	From 100 million LBP to less than 150 million LBP	10	
	150 million LBP or above	11	
	Don't Know	77	
	Refused	88	

Step 1 Behavioural Measurements

CORE: Tobacco Use		
Now I am going to ask you some questions about tobacco use.		
Question	Response	Code
Do you currently smoke any tobacco products, such as cigarettes, cigars, pipes or water pipe/Shisha/Arguila? (USE SHOWCARD)	Yes 1 No 2 If No, go to T8	T1
Do you currently smoke tobacco products daily ?	Yes 1 No 2	T2
How old were you when you first started smoking?	Age (years) _____ Don't know 77 If Known, go to T5a/T5aw	T3
Do you remember how long ago it was? (RECORD ONLY 1, NOT ALL 3)	In Years _____ If Known, go to T5a/T5aw	T4a
	OR in Months _____ If Known, go to T5a/T5aw	T4b
Don't know 77	OR in Weeks _____	T4c
On average, how many of the following products do you smoke each day/week ? (IF LESS THAN DAILY, RECORD WEEKLY) (RECORD FOR EACH TYPE, USE SHOWCARD) Don't Know 7777	DAILY↓ WEEKLY↓	
	Manufactured cigarettes _____	T5a/T5aw
	Hand-rolled cigarettes _____	T5b/T5bw
	Pipes full of tobacco _____	T5c/T5cw
	Cigars, cheroots, cigarillos _____	T5d/T5dw
	Number of Shisha/water pipe/Arguila sessions _____	T5e/T5ew
	Other _____ If Other, go to T5other, else go to T6	T5f/T5fw
Other (please specify): _____	T5other/ T5otherw	
During the past 12 months, have you tried to stop smoking ?	Yes 1 No 2	T6
During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco?	Yes 1 If T2=Yes, go to T12; if T2=No, go to T9 No 2 If T2=Yes, go to T12; if T2=No, go to T9 No visit during the past 12 months 3 If T2=Yes, go to T12; if T2=No, go to T9	T7
In the past, did you ever smoke any tobacco products? (USE SHOWCARD)	Yes 1 No 2 If No, go to T12	T8
In the past, did you ever smoke daily ?	Yes 1 If T1=Yes, go to T12, else go to T10 No 2 If T1=Yes, go to T12, else go to T10	T9

OPTIONAL: SHISHA questions - if 5e/T5ew		
The last time you smoked shisha, how long did you participate in the shisha smoking session?	Hrs: _____ mins	X2
The last time you smoked shisha, about how many heads were smoked while you were participating?	Number : _____	X3

OPTIONAL: Heated Tobacco Use			
Now I want to ask you about heated tobacco products. These are products that heat tobacco sticks or capsules to produce vapor or aerosol. Examples of these products include [IQOS and Eclips].			
Question	Response	Code	
Prior to today, have you ever heard of heated tobacco products?	Yes ☐ 1 No ☐ 2 → skip to X4 Refused ☐ 88 → skip to X4	HTP1	
Do you currently use heated tobacco products on a daily basis, less than daily, or not at all?	Daily ☐ 1 → skip to HTP5 Less than daily ☐ 2 → skip to HTP4 Not at all ☐ 3 Don't know ☐ 77 → skip to X4 Refused ☐ 88 → skip to X4	HTP2	
Have you ever, even once, used a heated tobacco product?	Yes ☐ 1 No ☐ 2 → skip to X4 Don't know ☐ 77 → skip to X4 Refused ☐ 88 → skip to X4	HTP3	
Have you ever used heated tobacco products daily in the past?	Yes ☐ 1 → go to HTP6 No ☐ 2 → skip to X4 Don't know ☐ 77 → skip to X4 Refused ☐ 88 → skip to X4	HTP4	
For how long have you been using heated tobacco products on a daily basis?	Less than 1 month ☐ 1 1 to 3 months ☐ 2 4 to 11 months ☐ 3 1 to 2 years ☐ 4 More than 2 years ☐ 5 Don't know ☐ 77 Refused ☐ 88	HTP5	
For how long did you use heated tobacco products on a daily basis?	Less than 1 month ☐ 1 1 to 3 months ☐ 2 4 to 11 months ☐ 3 1 to 2 years ☐ 4 More than 2 years ☐ 5 Don't know ☐ 77 Refused ☐ 88	HTP6	
Which of the following are reasons that you use a heated tobacco product? (SELECT ALL THAT APPLY)		HTP7	
		YES ▼	NO ▼
a. To quit smoking tobacco?.....	☐ 1..... ☐ 2	☐ -9	
b. To avoid going back to smoking tobacco?.....	☐ 1..... ☐ 2	☐ -9	
c. Because I enjoy it?	☐ 1..... ☐ 2	☐ -9	
d. Because I'm addicted to it?	☐ 1..... ☐ 2	☐ -9	
e. I can use it at times when or in places where tobacco smoking is not allowed?	☐ 1..... ☐ 2	☐ -9	
f. It is less harmful than smoking tobacco?.....	☐ 1..... ☐ 2	☐ -9	
g. It comes in flavors I like?	☐ 1..... ☐ 2	☐ -9	
h. A friend or family member uses it?	☐ 1..... ☐ 2	☐ -9	

OPTIONAL: Electronic Cigarettes		
Electronic cigarettes include any product that uses batteries or other methods to produce a vapor which contains nicotine. They have various other names such as e-cigarette, vape-pen, e-Shisha/Argeela, e-pipes.		
		X4

Prior to today, have you ever heard of electronic cigarettes ?	YES ☐ 1 NO ☐ 2 → skip to T12 REFUSED ☐ 88 → skip to T12																																					
Do you *currently* use electronic cigarettes or any other vaping device on a daily basis, less than daily, or not at all?	Daily ☐ 1 Skip to X8 Less than daily ☐ 2 Skip to X7 Not at all ☐ 3 Refused ☐ 88	X5																																				
Have you ever, <u>even once</u> , used an electronic cigarette or any other vaping device?	Yes ☐ 1 No ☐ 2 → skip to T12 Don't know ☐ 77 → skip to T12 Refused ☐ 88 → skip to T12	X6																																				
Have you ever used electronic cigarettes or any other vaping device daily in the past?	Yes ☐ 1 → go to X9 No ☐ 2 → skip to T12 Don't know ☐ 77 → skip to T12 Refused ☐ 88 → skip to T12	X7																																				
For how long have you been using electronic cigarettes or any other vaping device on a daily basis?	Less than 1 month ☐ 1 1 to 3 months ☐ 2 4 to 11 months ☐ 3 1 to 2 years ☐ 4 More than 2 years ☐ 5 Don't know ☐ 77 Refused ☐ 88	X8																																				
For how long did you use electronic cigarettes or any other vaping device on a daily basis?	Less than 1 month ☐ 1 1 to 3 months ☐ 2 4 to 11 months ☐ 3 1 to 2 years ☐ 4 More than 2 years ☐ 5 Don't know ☐ 77 Refused ☐ 88	X9																																				
Which of the following are reasons that you use electronic cigarettes or any other vaping device? (SELECT ALL THAT APPLY)		X10 (a-h)																																				
	<table border="1"> <thead> <tr> <th></th> <th>YES ▼</th> <th>NO ▼</th> <th>REFUSED ▼</th> </tr> </thead> <tbody> <tr> <td>a. [IF T1=1:] To quit smoking tobacco?.....</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>b. [IF T8=1:] To avoid going back to smoking tobacco?</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>c. Because I enjoy it?.....</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>d. Because I'm addicted to it?.....</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>e. I can use it at times when or in places where tobacco smoking is not allowed?</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>f. It is less harmful than smoking tobacco?</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>g. It comes in flavors I like?.....</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> <tr> <td>h. A friend or family member uses them?</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> </tr> </tbody> </table>		YES ▼	NO ▼	REFUSED ▼	a. [IF T1=1:] To quit smoking tobacco?.....	☐ 1	☐ 2	☐ -9	b. [IF T8=1:] To avoid going back to smoking tobacco?	☐ 1	☐ 2	☐ -9	c. Because I enjoy it?.....	☐ 1	☐ 2	☐ -9	d. Because I'm addicted to it?.....	☐ 1	☐ 2	☐ -9	e. I can use it at times when or in places where tobacco smoking is not allowed?	☐ 1	☐ 2	☐ -9	f. It is less harmful than smoking tobacco?	☐ 1	☐ 2	☐ -9	g. It comes in flavors I like?.....	☐ 1	☐ 2	☐ -9	h. A friend or family member uses them?	☐ 1	☐ 2	☐ -9	
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h. A friend or family member uses them?	☐ 1	☐ 2	☐ -9																																			

EXPANDED: Tobacco Use		
Question	Response	Code
Do you currently use any smokeless tobacco products such as [snuff, chewing tobacco, betel]? (USE SHOWCARD)	Yes 1 No 2 If No, go to T15	T12
Do you currently use smokeless tobacco products daily?	Yes 1 If Yes, go to T17 No 2 If No, go to T17	T13
In the past , did you ever use smokeless tobacco products such as [snuff, chewing tobacco, or betel]?	Yes 1 No 2	T15

During the past 30 days, did someone smoke in your home ? <i>This only includes enclosed areas of the home- the respondent should not include areas outside of the home including patios, porches, etc. that are not fully enclosed.</i>	Yes 1 No 2	T17
During the past 30 days, did someone smoke in closed areas in your workplace (in the building, in a work area or a specific office)?	Yes 1 No 2 Don't work in a closed area 3	T18
During the past 30 days, did someone smoke in closed areas you were present in, mostly in a restaurant, house other than yours or car or any closed place you are present in?	Yes 1 No 2 Not visited any restaurant/café or any closed area in the past 30 days 3 Don't know 77 Refused 88	X11

Tobacco Policy

Tobacco Policy		
You have been asked questions on tobacco consumption before. The next questions ask about tobacco control policies. They include questions on your exposure to the media and advertisement, on cigarette promotions, health warnings and cigarette purchases.		
Question	Response	Code
During the past 30 days, have you noticed information about the dangers of smoking cigarettes or that encourages quitting through the following media? (RECORD FOR EACH)		
Newspapers or magazines	Yes 1 No 2 Don't know 77	TP1a
Television	Yes 1 No 2 Don't know 77	TP1b
Radio	Yes 1 No 2 Don't know 77	TP1c
Internet and social media channels	Yes 1 No 2 Don't know 77	TP1X
During the past 30 days, have you noticed any advertisements or signs promoting cigarettes in stores where cigarettes are sold?	Yes 1 No 2 Don't know 77	TP2
During the past 30 days, have you noticed any of the following types of cigarette promotions? (RECORD FOR EACH)		
Free samples of cigarettes	Yes 1 No 2 Don't know 77	TP3a
Cigarettes at sale prices	Yes 1 No 2 Don't know 77	TP3b
Coupons for cigarettes	Yes 1 No 2 Don't know 77	TP3c
Free gifts or special discount offers on other products when buying cigarettes	Yes 1 No 2 Don't know 77	TP3d

Clothing or other items with a cigarette brand name or logo	Yes 1 No 2 Don't know 77	TP3e
Cigarette promotions by email	Yes 1 No 2 Don't know 77	TP3f
<i>The next questions TP4 – TP7 are administered to current smokers only.</i>		
During the past 30 days, did you notice any health warnings on cigarette packages ?	Yes 1 No 2 <i>If no, go to TP6</i> Did not see any cigarette packages 3 <i>If "did not see any cigarette packages", go to TP6</i> Don't know 77 <i>If Don't know, go to TP6</i>	TP4
During the past 30 days, have warning labels on cigarette packages led you to think about quitting ?	Yes 1 No 2 Don't know 77	TP5
The last time you bought manufactured cigarettes for yourself, how many cigarettes did you buy in total?	Number of cigarettes Don't know or Don't smoke or purchase manuf. cigarettes 7777 <i>If "Don't know or don't smoke or purchase manuf. cig.", end section → go to A1</i>	TP6
In total, how much money did you pay for this purchase (<i>in LBP</i>)?	Amount Don't know 7777 Refused 8888	TP7
Please specify if the amount given for the purchase of manufactured cigarettes is in thousands or millions	Thousands 1 Millions 2	TP7X

CORE: Alcohol Consumption

The next questions ask about the consumption of alcohol.

Question	Response	Code
Have you ever consumed any alcohol such as beer, vodka, wine, Arak, Whiskey, spirits? (USE SHOWCARD OR SHOW EXAMPLES)	Yes 1 No 2 <i>If No, go to A16</i>	A1
Have you consumed any alcohol within the past 12 months ?	Yes 1 <i>If Yes, go to A4</i> No 2	A2
Have you stopped drinking due to health reasons, such as a negative impact on your health or on the advice of your doctor or other health worker?	Yes 1 <i>If Yes, go to A16</i> No 2 <i>If No, go to A16</i>	A3
During the past 12 months, how frequently have you had at least one standard alcoholic drink? (READ RESPONSES, USE SHOWCARD)	Daily 1 5-6 days per week 2 3-4 days per week 3 1-2 days per week 4 1-3 days per month 5 Less than once a month 6	A4
Have you consumed any alcohol within the past 30 days ?	Yes 1 No 2 <i>If No, go to A13</i>	A5
During the past 30 days, on how many occasions did you have at least one standard alcoholic drink?	Number Don't know 77 <i>If zero, go to A13</i>	A6
During the past 30 days, when you drank alcohol, how many standard drinks on average did you have during one drinking occasion? (USE SHOWCARD)	Number Don't know 77	A7
During the past 30 days, what was the largest number of standard drinks you had on a single occasion, counting all types of alcoholic drinks together?	Largest number Don't Know 77	A8
During the past 30 days, how many times did you have six or more standard drinks in a single drinking occasion?	Number of times Don't Know 77	A9
	Monday	A10a

During each of the past 7 days, how many standard drinks did you have each day? (USE SHOWCARD) Don't Know 77	Tuesday	A10b
	Wednesday	A10c
	Thursday	A10d
	Friday	A10e
	Saturday	A10f
	Sunday	A10g

CORE: Alcohol Consumption, continued

I have just asked you about your consumption of alcohol during the past 7 days. The questions were about alcohol in general, while the next questions refer to your consumption of homebrewed alcohol, alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol. Please only think about these types of alcohol when answering the next questions.

Question	Response	Code
During the past 7 days, did you consume any homebrewed alcohol like Arak, any alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol? (USE SHOWCARD)	Yes 1 No 2 <i>If No, go to A13</i>	A11
On average, how many standard drinks of the following did you consume during the past 7 days? (USE SHOWCARD) Don't Know 77	Homebrewed spirits, e.g. Arak	A12a
	Homebrewed beer or wine, e.g. beer, palm or fruit wine	A12b
	Alcohol brought over the border/from another country	A12c
	Alcohol not intended for drinking, e.g. alcohol-based medicines, perfumes, after shaves	A12d
	Other untaxed alcohol in the country	A12e

EXPANDED: Alcohol Consumption

During the past 12 months, how often have you found that you were not able to stop drinking once you had started?	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5 Refused 88	A13
During the past 12 months, how often have you failed to do what was normally expected from you because of drinking?	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5 Refused 88	A14
During the past 12 months, how often have you needed a first drink in the morning to get yourself going after a heavy drinking session?	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5 Refused 88	A15
During the past 12 months, have you had family problems or problems with your partner due to someone else's drinking?	Yes, more than monthly 1 Yes, monthly 2 Yes, several times but less than monthly 3 Yes, once or twice 4 No 5	A16

	Refused 88	
In the past 30 days, how many times have you driven a motorized vehicle when you have had 2 or more alcoholic drinks? (USE SHOWCARD)	Number of times Don't Know 77 Refused 88	V9
In the past 30 days, how many times have you ridden in a motorized vehicle where the driver has had 2 or more alcoholic drinks? (USE SHOWCARD)	Number of times Don't Know 77 Refused 88	V10

CORE: Diet

The next questions ask about the fruits and vegetables that you usually eat. I have a nutrition card here that shows you some examples of local fruits and vegetables. Each picture represents the size of a serving. As you answer these questions please think of a typical week in the last year.

Question	Response	Code
In a typical week, on how many days do you eat fruit ? (USE SHOWCARD)	Number of days Don't Know 77 <i>If Zero days, go to D3</i>	D1
How many servings of fruit do you eat on one of those days? (USE SHOWCARD)	Number of servings Don't Know 77	D2
In a typical week, on how many days do you eat vegetables ? (USE SHOWCARD)	Number of days Don't Know 77 <i>If Zero days, go to D5</i>	D3
How many servings of vegetables do you eat on one of those days? (USE SHOWCARD)	Number of servings Don't know 77	D4

Dietary salt

With the next questions, we would like to learn more about salt in your diet. Dietary salt includes ordinary table salt, unrefined salt such as sea salt, iodized salt, salty stock cubes and powders, and salty sauces such as soya sauce or fish sauce (see showcard). The following questions are on adding salt to the food right before you eat it, on how food is prepared in your home, on eating processed foods that are high in salt such as sausages, and questions on controlling your salt intake. Please answer the questions even if you consider yourself to eat a diet low in salt.

How often do you add salt or a salty sauce such as soya sauce, ketchup, mustard to your food right before you eat it or as you are eating it? (USE SHOWCARD)	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D5
How often is salt, salty seasoning or a salty sauce (such as broth cubes or powders and tomato paste) added in cooking or preparing foods in your household?	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D6
How often do you eat processed food high in salt ? By processed food high in salt, I mean foods that have been altered from their natural state, such as packaged salty snacks, canned salty food including pickles and preserves, salty food prepared at a fast food restaurant, Lebanese/Arabic white bread, Markouk bread, Tannour bread, Manakeesh, cheese, bacon and processed meat [sausage, mortadella, salami and jambon], chips (potatoe or corn based), salted/flavored seeds and nuts. (USE SHOWCARD)	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D7
How much salt or salty sauce do you think you consume?	Far too much 1 Too much 2 Just the right amount 3 Too little 4 Far too little 5 Don't know 77	D8

EXPANDED: Diet

Question	Response	Code
How important to you is lowering the salt in your diet?	Very important 1 Somewhat important 2 Not at all important 3 Don't know 77	D9

Do you think that too much salt or salty sauce in your diet could cause a health problem ?	Yes 1 No 2 Don't know 77	D10
Do you do any of the following on a regular basis to control your salt intake ? (RECORD FOR EACH)		
Limit consumption of processed foods	Yes 1 No 2	D11a
Look at the salt or sodium content on food labels	Yes 1 No 2	D11b
Buy low salt/sodium alternatives	Yes 1 No 2	D11c
Use spices other than salt when cooking	Yes 1 No 2	D11d
Avoid eating foods prepared outside of a home	Yes 1 No 2	D11e
Do other things specifically to control your salt intake	Yes 1 <i>If Yes, go to D11other</i> No 2	D11f
Other (please specify)		D11other
The next questions ask about the oil or fat that is most often used for meal preparation in your household, and about meals that you eat outside a home.		
What type of oil or fat is most often used for meal preparation in your household? (USE SHOWCARD) (SELECT ONLY ONE)	Vegetable oil, like corn oil 1 Lard or suet 2 Animal Butter or ghee, like (Kawarma) 3 Margarine 4 Olive Oil 5 Other 6 <i>If Other, go to D12 other</i> None in particular 7 None used 8 Don't know 77	D12
	Other	D12other
On average, how many meals per week do you eat that were not prepared at a home? By meal, I mean breakfast, lunch and dinner.	Number Don't know 77	D13

CORE: Physical Activity		
Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person. Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing, seeking employment. In answering the following questions 'vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.		
Question	Response	Code
Work		
Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work]? (USE SHOWCARD)	Yes 1 No 2 <i>If No, go to P 4</i>	P1
In a typical week, on how many days do you do vigorous-intensity activities as part of your work?	Number of days	P2
How much time do you spend doing vigorous-intensity activities at work on a typical day?	Hours : minutes : hrs mins	P3 (a-b)
Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking [or carrying light loads, gardening and cleaning]? (USE SHOWCARD)	Yes 1 No 2 <i>If No, go to P 7</i>	P4
In a typical week, on how many days do you do moderate-intensity activities as part of your work?	Number of days	P5

How much time do you spend doing moderate-intensity activities at work on a typical day?	Hours : minutes : hrs mins	P6 (a-b)
Travel to and from places		
The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship.		
Do you walk or use a bicycle (pedal cycle) to get to and from places?	Yes 1 No 2 <i>If No, go to P 10</i>	P7
In a typical week, on how many days do you walk or bicycle to get to and from places?	Number of days	P8
How much time do you spend walking or bicycling for travel on a typical day?	Hours : minutes : hrs mins	P9 (a-b)

CORE: Physical Activity, Continued		
Question	Response	Code
Recreational activities		
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities (leisure).		
Do you do any vigorous-intensity sports, fitness or recreational (leisure) activities that cause large increases in breathing or heart rate like [running or football basketball or tennis]? (USE SHOWCARD)	Yes 1 No 2 <i>If No, go to P 13</i>	P10
In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational (leisure) activities?	Number of days	P11
How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day?	Hours : minutes : hrs mins	P12 (a-b)
Do you do any moderate-intensity sports, fitness or recreational (leisure) activities that cause a small increase in breathing or heart rate such as brisk walking, [cycling, swimming, volleyball, dancing, yoga]? (USE SHOWCARD)	Yes 1 No 2 <i>If No, go to P16</i>	P13
In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational (leisure) activities?	Number of days	P14
How much time do you spend doing moderate-intensity sports, fitness or recreational (leisure) activities on a typical day?	Hours : minutes : hrs mins	P15 (a-b)

EXPANDED: Physical Activity		
Sedentary behaviour		
The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent sitting at a desk, sitting with friends, traveling in car, bus, train, reading, playing cards, playing video games or watching television, but do not include time spent sleeping. (USE SHOWCARD)		
How much time do you usually spend sitting or reclining on a typical day?	Hours : minutes : hrs mins	P16 (a-b)

CORE: History of Raised Blood Pressure		
Question	Response	Code
Have you ever had your blood pressure measured by a doctor or other health worker?	Yes 1 No 2 <i>If No, go to H6</i>	H1
Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension?	Yes 1 No 2 <i>If No, go to H6</i>	H2a
Were you first told in the past 12 months?	Yes 1 No 2	H2b
	Yes 1	

In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker?	No 2	H3
Have you ever seen a traditional healer for raised blood pressure or hypertension?	Yes 1 No 2	H4
Are you currently taking any herbal or traditional remedy for your raised blood pressure?	Yes 1 No 2	H5

CORE: History of Diabetes		
Have you ever had your blood sugar measured by a doctor or other health worker?	Yes 1 No 2 <i>If No, go to H12</i>	H6
Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes?	Yes 1 No 2 <i>If No, go to H12</i>	H7a
Were you first told in the past 12 months?	Yes 1 No 2	H7b
In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker?	Yes 1 No 2	H8
Are you currently taking insulin for diabetes prescribed by a doctor or other health worker?	Yes 1 No 2	H9
Have you ever seen a traditional healer for diabetes or raised blood sugar?	Yes 1 No 2	H10
Are you currently taking any herbal or traditional remedy for your diabetes?	Yes 1 No 2	H11

CORE: History of Raised Total Cholesterol		
Question	Response	Code
Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker?	Yes 1 No 2 <i>If No, go to H17</i>	H12
Have you ever been told by a doctor or other health worker that you have raised cholesterol?	Yes 1 No 2 <i>If No, go to H17</i>	H13a
Were you first told in the past 12 months?	Yes 1 No 2	H13b
In the past two weeks, have you taken any oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker?	Yes 1 No 2	H14
Have you ever seen a traditional healer for raised cholesterol?	Yes 1 No 2	H15
Are you currently taking any herbal or traditional remedy for your raised cholesterol?	Yes 1 No 2	H16

CORE: History of Cardiovascular Diseases		
Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?	Yes 1 No 2	H17
Are you currently taking aspirin regularly to prevent or treat heart disease?	Yes 1 No 2	H18
Are you currently taking statins or cholesterol-lowering and triglyceride-lowering medications (Lovastatin/Simvastatin/Atorvastatin / like crestor, liponorm, lipantil, etc. or any other statin) regularly to prevent or treat heart disease?	Yes 1 No 2	H19

CORE: Lifestyle Advice		
Question	Response	Code
During the past 12 months, have you visited a doctor or other health worker?	Yes 1 No 2 <i>If No and C1=1, go to X14 If No and C1=2, go to CX1</i>	H20

During the past 12 months, has a doctor or other health worker advised you to do any of the following? (RECORD FOR EACH)		
Quit using tobacco or don't start	Yes 1 No 2	H20a
Quit using alcohol or don't start	Yes 1 No 2	X12
Reduce salt in your diet	Yes 1 No 2	H20b
Eat at least five servings of fruit and/or vegetables each day	Yes 1 No 2	H20c
Reduce fat in your diet	Yes 1 No 2	H20d
Start or do more physical activity	Yes 1 No 2	H20e
Maintain a healthy body weight or lose weight	Yes 1 No 2	H20f
Reduce sugary beverages in your diet	Yes 1 No 2	H20g

Cervical Cancer

CORE (for women only If C1=2): Cervical Cancer Screening

The next question asks about cervical cancer prevention. Screening tests for cervical cancer prevention can be done in different ways, including Visual Inspection with Acetic Acid/vinegar (VIA) and pap smear.

VIA is an inspection of the surface of the uterine cervix after acetic acid (or vinegar) has been applied to it. For pap smear, a doctor or nurse uses a swab to wipe from inside your vagina, take a sample and send it to a laboratory. It is even possible that you were given the swab yourself and asked to swab the inside of your vagina. The laboratory checks for abnormal cell changes if a pap smear is done.

Question	Response	Code
Have you ever had a screening test for cervical cancer, using any of these methods described above?	Yes 1 No 2 If CX1=2 go to X14 Don't know 77 If CX1=77 go to X14 Refused 88	CX1
When was your last (most recent) test for cervical cancer?	Less than 1 year ago 1 1-2 years ago 2 3-5 years ago 3 More than 5 years ago 4 Don't know 77 Refused 88	CX3
Do you do the test on a routine basis? (e.g., every 5 years)	Yes 1 No 2 Refused 88	X13

Health Seeking Behaviors

COUNTRY ADDED: Health Seeking Behaviors

The next questions ask about the health seeking behaviors and health expenditures, covering disease-health conditions in the household; coverage schemes; health access, utilization, preferences and needs; health expenditure information; and perception about services and quality.

Question	Response	Code
In the past 12 months, how often did you or your family member use health care services (e.g. consultations at private clinics or in a primary health care center, medicines, x-rays, laboratory tests, hospitalization, pharmacy, etc.)?	Monthly 1 Quarterly (4 times a year) 2 2-3 times a year 3 Once a year 4 Never 5 Don't know 77 Refused 88	X14
	Yes 1	X15

In the past 12 months, did you or anyone in your household need to access health services?	No 2 If No, go to X17 Don't know 77 Refused 88																																				
What are the health services that you or anyone in your household needed to access? (SELECT ALL THAT APPLY)	Outpatient consultations 1 Maternal health services (antenatal care, delivery, postnatal care) 2 Child health services (pediatric visits, child immunizations) 3 Reproductive health services (family planning) 4 Mental health services (psychiatrist or psychologist) 5 Dental services 6 Diagnostic services (blood tests, X-rays, MRI...) 7 Pharmaceuticals (medications) 8 Emergency services 9 Hospitalization (including dialysis, chemotherapy, radiology and palliative care) 10 Rehabilitation services 11 Self-managed/medicated 12 Don't know 77 Refused 88	X16																																			
In the past 12 months, if any health service not accessed, what were the barriers or reasons for not being able to access the health services you needed?		X17																																			
<table border="1"> <thead> <tr> <th></th> <th>YES ▼</th> <th>NO ▼</th> <th>REFUSED ▼</th> <th>DON'T KNOW</th> </tr> </thead> <tbody> <tr> <td>a. Affordability and financial barriers (e.g. could not afford cost of consultation, cost of diagnostic test, cost of treatment including medications and rehabilitation, or transportation to health facility) ...</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> <td>☐ -8</td> </tr> <tr> <td>b. Accessibility barriers (e.g. physical disability limiting access to health facility, could not take time off work / from caring for children, no health facility nearby / no means of transport, ...)</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> <td>☐ -8</td> </tr> <tr> <td>c. Service availability barriers (e.g. not admitting the patient due to unavailability of beds, the specialized health need(s) is not available at the visited health facility, health facility hours of operation are not convenient) ...</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> <td>☐ -8</td> </tr> <tr> <td>d. Barriers related to quality of services and patient satisfaction (e.g. long waiting time for the service, inadequate welcoming/treatment by health center staff, no trust in the service, unsafe health facility) ...</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> <td>☐ -8</td> </tr> <tr> <td>e. Legal barriers (e.g. Lack of civil documentation / legal status)</td> <td>☐ 1</td> <td>☐ 2</td> <td>☐ -9</td> <td>☐ -8</td> </tr> <tr> <td>f. other</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				YES ▼	NO ▼	REFUSED ▼	DON'T KNOW	a. Affordability and financial barriers (e.g. could not afford cost of consultation, cost of diagnostic test, cost of treatment including medications and rehabilitation, or transportation to health facility) ...	☐ 1	☐ 2	☐ -9	☐ -8	b. Accessibility barriers (e.g. physical disability limiting access to health facility, could not take time off work / from caring for children, no health facility nearby / no means of transport, ...)	☐ 1	☐ 2	☐ -9	☐ -8	c. Service availability barriers (e.g. not admitting the patient due to unavailability of beds, the specialized health need(s) is not available at the visited health facility, health facility hours of operation are not convenient) ...	☐ 1	☐ 2	☐ -9	☐ -8	d. Barriers related to quality of services and patient satisfaction (e.g. long waiting time for the service, inadequate welcoming/treatment by health center staff, no trust in the service, unsafe health facility) ...	☐ 1	☐ 2	☐ -9	☐ -8	e. Legal barriers (e.g. Lack of civil documentation / legal status)	☐ 1	☐ 2	☐ -9	☐ -8	f. other				
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Where do you usually seek health care? (SELECT ONLY ONE)	Primary healthcare center/Dispensary 1 Private health clinic 2 Specialized centres 3 Pharmacy 4 Public/Governmental hospital 5 Private hospital 6 Home care 7 Traditional healer or practitioner 8 Online 9 Other 10 Specify Don't know 77 skip to X20 Refused 88 skip to X20	X18																																			
What is the main reason for preferring to seek healthcare in [chosen facility]? (SELECT ONLY ONE)	Location of facility 1 Physical accessibility 2 Affordability of services/health insurance coverage 3 Availability of services 4 Provision of satisfactory patient care (provider spends adequate time with patient, provides sufficient information on health condition...) 5 Trust in medical providers at health facility 6 Cleanliness of health facility 7 Short waiting times 8 Other 9 Specify Don't know 77 Refused 88	X19																																			

Where do you usually prefer to get your medications?	Local private pharmacy 1 Primary healthcare center / dispensary 2 From abroad (from someone or online via pharmacy) 3 Gifts / in kind 4 I do not need medications 5 Other 6 Specify Don't know 77 Refused 88	X20
Did you face any interruption in your NCD medications in the last 12 months (this includes cancer medications)?	Yes 1 No 2 go to X24 I don't take NCD medications 3 go to X24 Don't know 77 If DK, go to X24 Refused 88 If Refused, go to X24	X21
If yes, what is the reason behind the interruption?	Lack of availability in the market in pharmacies or in PHC 1 Could not afford it 2 Side effects 3 Doctor not accessible for renewing the prescription or providing a substitute 4 Other 5 Don't know 77 Refused 88	X22
What did you do to resume your medications? (SELECT ALL THAT APPLY)	Switched to substitute/generic 1 Stopped using the medicine 2 Decreased using the medicine to save on it to last you longer 3 Acquired medication from outside Lebanon 4 Borrowed money to afford medication 5 Received or exchanged medication 6 Through informal networks 7 Reduced non-medical household expenses to afford medication 8 Other 9 Don't know 77 Refused 88	X23
Do you currently have health insurance?	Yes 1 No 2 If No, go to X26	X24
Which of the following health insurance schemes do you have? (SELECT ALL THAT APPLY)	National Social Security Fund (NSSF) 1 Army/military scheme 2 Private local insurance 3 Private international insurance 4 Complementary private insurance 5 Civil Servants Cooperative (CSC) 6 UN Agency (UNHCR, UNRWA...) 7 Occupational insurance (provided by workplace) 8 None (out-of-pocket expenditure) 9 None (Ministry of Public Health) 10 Other 10 Don't know 77 Refused 88	X25
Over the last 3 months, how much did you pay on health services in total?	Less than 1 million LBP 1 From 1 million LBP to less than 5 million LBP 2 From 5 million LBP to less than 10 million LBP 3 From 10 million LBP to less than 15 million LBP 4 From 15 million LBP to less than 25 million LBP 5 From 25 million LBP to less than 35 million LBP 6 From 35 million LBP to less than 50 million LBP 7 From 50 million LBP to less than 75 million LBP 8 From 75 million LBP to less than 100 million LBP 9 From 100 million LBP to less than 150 million LBP 10 150 million LBP or above 11 Don't Know 77 Refused 88	X26

In the last 3 months, how much money did you spend on the following (in LBP)?	Medications _____	1	Don't know 77	Refused 88	X27 (a-k)
	Emergency Room services _____	2	Don't know 77	Refused 88	
	Dialysis _____	3	Don't know 77	Refused 88	
	Cancer treatment _____	4	Don't know 77	Refused 88	
	Hospitalization _____	5			
	Diagnostics _____	6	Don't know 77	Refused 88	
	Consultations _____	7	Don't know 77	Refused 88	
	Dental services _____	8	Don't know 77	Refused 88	
	Vaccinations _____	9	Don't know 77	Refused 88	
	Physiotherapy _____	10	Don't know 77	Refused 88	
	Psychotherapy _____	11	Don't know 77	Refused 88	

Mental Health / Suicide

Mental health / depression		
The next questions are about feelings of sadness, depression, and loss of interest and pleasure.		
Question	Response	Code
In the last 12 months, have you, for a period of at least 2 weeks, felt sad or depressed for most of the day, nearly every day ?	Yes 1 No 2 Refused 88	MH1
In the last 12 months, have you, for a period of at least 2 weeks, been a lot less interested in, or experienced a lot less pleasure from, doing the things you normally enjoy?	Yes 1 No 2 <i>If No and MH1=2, go to MHS1</i> Refused 88	MH2
When in the last 12 months was this [LOW MOOD and/or LOSS OF INTEREST OR PLEASURE] at its/their worst ?	Period (e.g., month): _____	MH3
The next questions I am going to ask you will refer specifically to this time, that is [INSERT ANSWER TO MH3]		
During this time in which your [LOW MOOD and/or LOSS OF INTEREST] were at its worst, did you have more trouble concentrating and staying focused on things than usual OR did you struggle more than usual to make decisions ?	Yes 1 No 2 Refused 88	MH4
Did you feel less valuable as a person or even worthless ?	Yes 1 <i>Go to MH7</i> No 2 Refused 88	MH5
Did you feel you let yourself or others down ?	Yes 1 No 2 Refused 88	MH6
Did you feel more hopeless about the future, like things would never turn out well for you?	Yes 1 No 2 Refused 88	MH7
The next question can be a sensitive question. Did you think often about death or suicide, or did you try to end your life?	Yes 1 No 2 Refused 88	MH8
Did you have more trouble sleeping than usual (for example falling or staying asleep), or sleeping a lot more than you usually do?	Yes 1 No 2 Refused 88	MH9
Did you not want to eat even when food was available, OR did you eat more than before your [LOW MOOD, and/or LOSS OF INTEREST] started?	Yes 1 No 2 Refused 88	MH10
Did you have less energy than before your [LOW MOOD, and/or LOSS OF INTEREST] started OR were you much more tired than usual even when doing some small task?	Yes 1 No 2 Refused 88	MH11
Were you moving or speaking more slowly than is normal for you, OR the opposite — were you fidgeting or pacing around a lot?	Yes 1 No 2 Refused 88	MH12
If less than five of the following symptoms are coded Yes: [MH1], [MH2], [MH4], [MH5 OR MH6], [MH7], [MH8], [MH9], [MH10], [MH11], [MH12], go to next module		
During this time when you experienced [LIST ALL ENDORSED SYMPTOMS], did these difficulties affect your ability to function in daily life (for example your work or school, your social life, your relationships) OR did these difficulties bother you a lot?	Yes 1 No 2 <i>Go to MHS1</i> Refused 88	MH13

Treatment coverage			
In the past 12 months, have you taken medications for the difficulties we've just talked about?	Yes, for less than 3 months Yes, for 3 months or more No Refused	1 2 3 → Go to MH15 88 → Go to MH15	MH14
Who prescribed or advised you to take the medications?	Psychiatrist Neurologist Other physician Pharmacist Psychologist Traditional healer Self-medicated Don't know Refused	1 2 3 4 5 6 7 8 88	X28
In the past 12 months, have you received psychological therapy/counselling sessions for the difficulties we've just talked about?	Yes: 1 to 3 sessions Yes, 4 sessions or more No Refused	1 2 3 88	MH15
Mental health / Suicide			
In addition to the above questions on depression, the next questions ask about thoughts, plans, and attempts of suicide. Please answer the questions even if no one usually talks about these issues.			
Question	Response		Code
During the past 12 months , have you seriously considered attempting suicide?	Yes No Refused	1 2 If No, go to MHS3 88	MHS1
Did you seek professional help for these thoughts?	Yes No Refused	1 2 88	MHS2
During the past 12 months , have you made a plan about how you would attempt suicide?	Yes No Refused	1 2 88	MHS3
Have you ever attempted suicide ?	Yes No Refused	1 2 If No, go to V11 88	MHS4
During the past 12 months , have you attempted suicide ?	Yes No Refused	1 2 88	MHS5
Did you seek medical care for this attempt?	Yes No Refused	1 2 If No, go to V11 88	MHS7

Violence and Injury			
CORE: Violence			
The following questions are about different experiences and behaviours that are related to violence.			
Question	Response		Code
In the past 12 months, how many times were you in a violent incident in which you were injured and required medical attention?	Never Rarely (1- 2 times) Sometimes (3 – 5 times) Often (6 or more times) Don't know Refused	1 If never, go to V17 2 3 4 77 If don't know, go to V17 88 If Refused, go to V17	V11
The next questions ask about the most serious violent incidence you have had in the past 12 months.			
Please indicate which of the following caused your most serious injury in the last 12 months. (USE SHOWCARDS)	Being shot with a firearm A weapon (other than a firearm) was used by the person who injured me Being injured without any weapon (slapped, pushed...) Don't know Refused	1 2 3 77 88	V12
Please indicate the relationship between yourself and the person(s) who caused your injury.	Intimate partner Parent	1 2	V13

	Child, sibling, or other relative 3 Friend or acquaintance 4 Unrelated caregiver 5 Stranger 6 Official or legal authorities 7 Other (specify) 8 <i>Go to V13other</i> Refused 88	
	Other (please specify)	V13other

EXPANDED: Violence

The next questions ask about behaviours related to your safety.

Question	Response	Code
In the past 12 months, have you been frightened for the safety of yourself or your family because of the anger or threats of another person(s)?	Yes 1 No 2 <i>If no, go to V19</i> Refused 88 <i>If refused, go to V19</i>	V17
Please specify of whom you were most often frightened.	Intimate partner 1 Parent 2 Child, sibling, or other relative 3 Friend or acquaintance 4 Unrelated caregiver 5 Stranger 6 Official or legal authority 7 Other (specify) 8 <i>Go to V18other</i> Refused 88	V18
	Other (please specify)	V18other
Have you carried a loaded firearm on your person outside the home in the last 30 days?	No 1 Yes, for protection 2 Yes, for work 3 Yes, for sport (e.g. hunting target practice) 4 Refused 88	V19

Step 2 Physical Measurements

The following section is about physical measurements.

CORE: Blood Pressure

Question	Response	Code
Interviewer ID		M1
Device ID for blood pressure		M2
Cuff size used	Standard 1	M3
Reading 1	Systolic (mmHg) Diastolic (mmHg)	M4a M4b
Reading 2	Systolic (mmHg) Diastolic (mmHg)	M5a M5b
Reading 3	Systolic (mmHg) Diastolic (mmHg)	M6a M6b
During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker?	Yes 1 No 2	M7

CORE: Height and Weight

For women: Are you pregnant?	Yes 1 <i>If Yes, go to M 16</i> No 2	M8
Interviewer ID		M9
Device IDs for height and weight	Height Weight	M10a M10b
Height	in Centimetres (cm)	M11

Weight If too large for scale 666.6	in Kilograms (kg)	M12
CORE: Waist		
Device ID for waist		M13
Waist circumference	in Centimetres (cm)	M14

EXPANDED: Hip Circumference and Heart Rate

Hip circumference	in Centimeters (cm)	M15
Heart Rate		
Reading 1	Beats per minute	M16a
Reading 2	Beats per minute	M16b
Reading 3	Beats per minute	M16c

Step 3 Biochemical Measurements

CORE: Blood Glucose

Question	Response	Code
During the past 12 hours have you had anything to eat or drink, other than water?	Yes 1 No 2	B1
Device ID		B3
Time of day blood specimen taken (24 hour clock)	Hours : minutes : hrs mins	B4
Fasting blood glucose	mg/dl	B5
Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker for raised blood glucose?	Yes 1 No 2	B6

CORE: Blood Lipids

Device ID		B7
Total cholesterol	mg/dl	B8
Triglycerides	mg/dl	B16
HDL Cholesterol	mg/dl	B17
LDL Cholesterol	mg/dl	X29
During the past two weeks, have you been treated for raised cholesterol with drugs (medication) prescribed by a doctor or other health worker?	Yes 1 No 2	B9

CORE: Urinary sodium and creatinine – skip if M8=1

Had you been fasting prior to the urine collection?	Yes 1 No 2	B10
Time of day urine sample taken (24 hour clock)	Hours : minutes : hrs mins	B13
Urinary sodium	mmol/l	B14
Urinary creatinine	mg/dl	B15

OPTIONAL: HbA1C

Question	Response	Code
HbA1C		X30

WHO STEPS chronic disease risk factor surveillance:

<https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps>