Azadi Ka Amrit Mahotsav

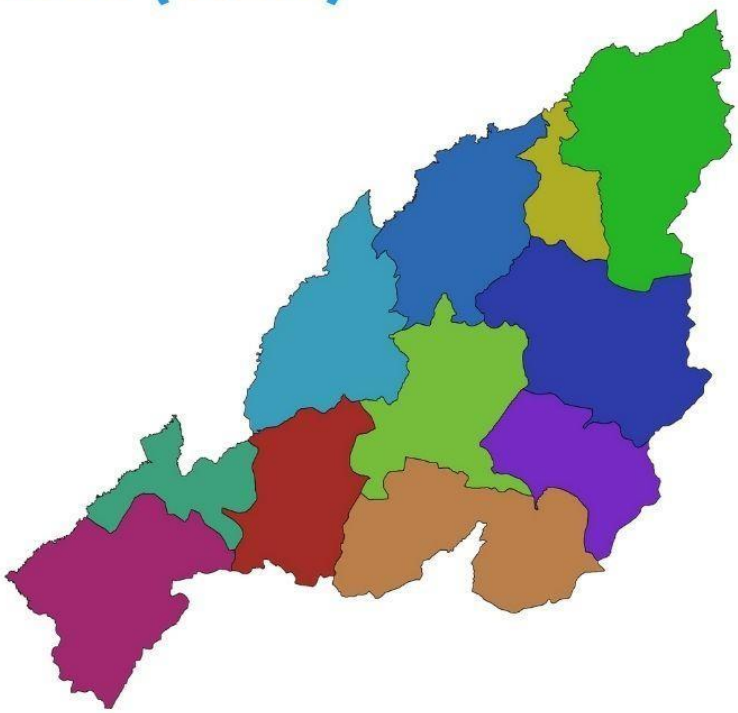
INDIAN COUNCIL OF MEDICAL RESEARCH

NCDIR
NATIONAL CENTRE FOR DISEASE INFORMATICS AND RESEARCH

CaRes
Cancer Research in North East, India
Research for better health

REPORT ON MONITORING SURVEY OF CANCER RISK FACTORS AND HEALTH SYSTEM RESPONSE IN NORTH EAST REGION (NER)

2022



NAGALAND

S. Pangnyu Phom

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Message

I am extremely delighted to learn that the report on "Monitoring Survey of Cancer Risk Factors and Health System Response in North East Region (NER) "Based on the Survey conducted from November, 2019 till March, 2021 by the Population Based Cancer Registry (PBCR), Nagaland under the aegis of National Centre for Disease Information and Research in Collaboration with the Indian Council of Medical Research (ICMR) is being published.

I congratulate **Dr. Vinotsole Khamo, Principal Investigator** and her best team in carrying out the survey successfully, inspite of the challenges imposed by the prevailing COVID-19 Pandemic. I would also like to thank the ICMR-NCDIR for including our State in this study.

I urge the Department of Health & Family Welfare, Nagaland to take into account the finding of the survey to adapt cancer prevention and control programme to suit the conditions of our State.

(S. PANGNYU PHOM)

PRINCIPAL DIRECTOR
DIRECTORATE OF HEALTH & FAMILY WELFARE
Nagaland : Kohima

Ref.No..... *Date.....*

I am extremely delighted to learn that the report on "Monitoring Survey of Cancer Risk Factors and Health System Response in North East Region (NER)" based on the survey conducted from November 2019 till March 2021 by the Population Based Cancer Registry (PBCR), Nagaland under the aegis of National Centre for Disease Information & Research in collaboration with the Indian Council of Medical Research (ICMR) is being published.

There has been a steady and consistent increase in cancer incidence and mortality across Nagaland which is alarming. With the increase in population, increase in the life expectancy, changes in life styles and habits, the burden of cancer is expected to rise. Accurate, timely and reliable information generated from this report on the cancer burden prevailing in the state is crucial for planning an effective strategy for cancer control and management and also to evaluate treatment policy.

I would also like to acknowledge the survey team for completing their survey within the stipulated time despite the challenges imposed by the prevailing Covid-19 pandemic.

Reducing the cancer burden and cancer control measures involves oncologists, researchers, epidemiologists and policy makers. I hope that this publication will be a boon for health care planners and enhance our effort in building human resource in cancer treatment and control as well.

With Best Wishes

(DR. NEIKHRIELIE KHIMIAO)

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It gives me immense pleasure to learn that the Population Based Cancer Registry (PBCR), Nagaland under the aegis of National Centre for Disease Information & Research in collaboration with the Indian Council of Medical Research (ICMR) is bringing out the publication on "Monitoring Survey of Cancer Risk Factors and Health System Response in North East Region (NER)" based on the survey conducted from November, 2019 till March, 2021.

Over the years, the registry has made commendable contribution by documenting the unique nature and distribution of cancer in Nagaland which has opened up new vistas of cancer research. Keeping in mind the growing incidence and mortality of cancer not only in Nagaland but in the entire North Eastern states, it is hoped that this report will help in establishing cancer and other Non Communicable Diseases (NCD) related risk factor surveillance system response indicators and guide in designing, planning, monitoring and evaluation of cancer control activities.

I also take this opportunity to congratulate the staff of the registry and ICMR-NCDIR experts for completing the survey even during the pandemic times and bringing out this publication.

I am confident that this report will also be of immense help in not only spreading awareness regarding cancer but also in dissemination of valuable information to the Academicians, Researchers, Physicians, Policy –Makers as well as the general public so far as prevention and control of cancer is concerned.

(Dr. THORHUSIE KATIRY)
Mission Director

icmr | NCDIR

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Azadi Ka Amrit Mahotsav

आई सी एम आर - राष्ट्रीय रोग सूचना विज्ञान एवं अनुसंधान केंद्र
स्वास्थ्य अनुसंधान विभाग, स्वास्थ्य एवं परिवार कल्याण मंत्रालय, भारत सरकार
ICMR - National Centre for Disease Informatics and Research
Department of Health Research, Ministry of Health and Family Welfare, Government of India

Foreword

The rising burden of cancer across the country is a cause for worry. The incidence and mortality rates for cancer are highest in the North East Region (NER) of the country. The ICMR-NCDIR has successfully completed the 'Monitoring survey of cancer risk factors and health system response in NER 2019-2021' as part of the cancer research NER (CaRes NER) Programme in the state of Nagaland. The aim of the survey was to estimate the prevalence of major cancer- associated behavioral and metabolic risk factors and pattern of their distribution in the population. The response of the health system towards cancer prevention and control at the primary and secondary level in public and private sector health facilities has also been assessed. The findings from this survey will form a baseline for monitoring of risk factors for comparison in subsequent surveys.

This report contains the findings that were generated from the monitoring survey which was conducted in the state of Nagaland, implemented through PBCR Nagaland situated at Naga Hospital Authority, Kohima.

I sincerely appreciate the efforts of the Principal Investigator and Co-Principal Investigator of the study site for their role in supervising and coordinating a smooth and efficient conduct of the survey. The role and support provided by the scientific and technical staff at ICMR-NCDIR, Bengaluru is duly acknowledged.

I hope that this survey will aid in establishing a cancer surveillance program in the region which has so far been compiling data on cancer related statistics. As cancer registration is an integral part of cancer surveillance, an ongoing surveillance of risk factors will help to correlate trends in cancer incidence and risk factors. Valuable information shared with the state and local authorities shall facilitate efforts to reduce the cancer burden through appropriate interventions.

Prashant Mathur

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MESSAGE

It gives me great pleasure that the report on "Monitoring Survey of Cancer Risk Factors and Health System Response in North East Region (NER)" based on the survey conducted from November, 2019 till March, 2021 by the Population Based Cancer Registry (PBCR), Nagaland under the aegis of National Centre for Disease Information & Research in collaboration with the Indian Council of Medical Research (ICMR) is being published.

I congratulate the team for their hard work carried out during the pandemic and bringing out this important information on cancer risk factor and health system response in our state. This document will help the policy makers and stake holders to address cancer prevention and control.

(DR VIBEITUONUO MEPFUO)

Acknowledgement

It brings us immense pleasure to bring out the state wise report on "Monitoring Survey of Cancer Risk Factor and Health System Response in North East Region (NER)" of Nagaland, which has been made possible only because of some individuals and groups who have contributed their selfless service and rendered their valuable time towards the completion and success of the survey.

Firstly, we are very grateful to the NCDIR staff for their constant assistance, support and coordination throughout the survey, without which the survey would not have been successful.

We would like to give our special thanks to the PBCR staff, Scientist B and all the survey teams for undertaking the survey despite the challenges imposed by field conditions and the COVID 19 pandemic for completing the survey within the specific period.

We also thank the State-level Health Authorities for granting permission to conduct the survey smoothly and also all the Govt. Hospitals, Private Hospitals, CHCs, UPHCs and PHCs for providing the necessary details required for the success of the survey.

We acknowledge and convey our gratitude to all the Village Chairman's, Colony/Ward Chairman's and Community Leaders for allowing us and rendering their services and assistance in the field especially during the COVID 19 pandemic, without your help, the survey not be able to conduct in a specific given period of time.

Lastly, we appreciate and give full credit to all the respondents for actively participating in the survey, having full confidence in us providing all the necessary details without any reservations towards the success of the survey, without which the survey would not be a successful one.

Dr. VINOTSOLE KHAMO

Principal Investigator

Dr. EBENEZER PHESAO

Co-Principal Investigator

List of Abbreviations

BMI	Body Mass Index
BP	Blood pressure
CCA	Central Coordinating Agency
CEBs	Census Enumeration Blocks
CHCs	Community Health Centers
Co-PI	Co-Principal Investigator
CSA	Coordinating PBCR covering State Agency
CVDs	Cardiovascular Diseases
DHs	District Hospitals
HHs	Households
ICMR	Indian Council of Medical Research
MSW	Medical Social Worker
NCDs	Non communicable Diseases
NCDIR	National Centre for Disease Informatics and Research
NER	North-East Region
NHM	National Health Mission
NNMS	National NCD Monitoring Survey
NPCDCS	National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke
PBCR	Population Based Cancer Registry
PHCs	Primary Health Centres
PI	Principal Investigator
PPS	Probability Proportional to Size
PSUs	Primary Sampling Units
SDGs	Sustainable Development Goals
TWG	Technical Working Group
WHO	World Health Organization
STEPS	STEP wise approach to surveillance
SARA	Service Availability and Readiness Assessment
WC	Waist Circumference

Executive Summary

The incidence, mortality, and cumulative risk of developing cancer has been consistently high in the Northeastern Region (NER) of India, according to reports of the National Cancer Registry Programme (NCRP). While the Population Based Cancer Registries (PBCRs') under the NCRP have been instrumental in providing the much-needed cancer data for the geographic area covered by a registry, it is vital to understand the likely reasons for the reported cancer incidence and its outcomes. Cancers share several common risk factors, and comparable health system needs with other significant NCDs (cardiovascular diseases, diabetes, stroke, chronic obstructive pulmonary disease and chronic kidney disease) for prevention, early detection and control. These include major behavioral and metabolic risk factors such as tobacco use, unhealthy diet, inadequate physical activity, alcohol use, raised blood glucose and overweight/obesity. Therefore, establishing a cancer risk factor surveillance system within a cancer registry is essential to track changes, implement suitable interventions and evaluate their impact, which would be reflected in the magnitude of cancer that is periodically reported from the registry.

Hence, this survey is an approach to implement a baseline monitoring system to drive us in understanding the linkage between exposures to risk factors, other NCDs and cancer incidence derived from the PBCRs in the NER and would aid in analysing the trends over time. This will enable the policymakers and stakeholders at making best decisions to address cancer prevention and control in the state.

The survey objectives included:

Primary objectives: To generate prevalence of key cancer and other NCD related risk factors and estimate health system response in the state of Nagaland.

Secondary objectives:

- To set a baseline to monitor and track trends in the prevalence of risk factors associated with cancer and other NCDs in the state of Nagaland.
- To link or correlate risk factors with cancer incidence and burden collected by the PBCR in the Nagaland state.

Key findings

- The proportion of solid fuel use was high in rural areas (81.2 %). Nearly half (49.8%) of the rural population used wood as cooking fuel. About 81% of the rural population used 'open stove' or 'chulha' for cooking.
- Over one third of the respondents (39.3%) were current tobacco users, comprising 57.1% men and 19.8% women. Close to one third (24.4%) of men were current users of smoked tobacco.
- 18.8% of the respondents reported to have consumed alcohol over the past 12 months and 13.1% reported alcohol use within the past month.

- The mean number of days on which either fruits or vegetables were consumed was 5.8 days in a week.
- According to the WHO criteria, the proportion of those who were obese was 6.8%, while the prevalence of obesity was higher (35.5%) using Asian cut off points.
- The prevalence of raised blood pressure was 34.1%, of which the proportion of newly detected (29.3%) was higher than previously known (4.8%).
- The proportion of respondents whose blood glucose level was over 126 mg/dl was 2.5%, among whom the proportion of known diabetics was 1.6%.
- Nearly 57% of the cancer patients had sought health care outside of their state, the majority (75%) were availing of treatment at a private health facility.
- Over a half (60.7%) of the cancer patients were self-financing their treatment; 10.7% were covered by health insurance.
- Cancer screening for all three types of cancers (cervical, breast, oral) was available only in 50 % of the District hospitals.
- A few District hospitals had a specialist in position in the following departments: surgery (42.9%), medicine (71.4%) and gynaecology (14.3%).
- 28.6% of the General Duty Medical Officers at the CHCs and District hospitals had been trained for NPCDCS/NHM (NCD related)/State program. Likewise, the proportion of staff from other cadres who had undergone NCD-related programme management training was low in PHC, CHC and District hospitals.
- Only 50% of the District hospitals had daycare facilities for chemotherapy.

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Chapter 1: Introduction

The National Cancer Registry Programme (NCRP) was established as early as 1981, and has its coordinating centre at ICMR-NCDIR, Bengaluru. The role of NCRP is vital in assessing indicators like the incidence of cancer, mortality trends and the quality of the healthcare systems being provided in different regions. The relevant health indicators are then collected, assessed, analysed and interpreted to provide inputs that help in formulating policies, programmes, and research activities. The cancer data is collected from the respective state PBCR for the above analysis. The PBCR of Nagaland is situated in Naga Hospital, Kohima. The data analysed from the PBCR helps study the cancer pattern of the population of a defined region and helps with time trend analysis of predominant cancers in the state. This, in turn, leads to the formulation of prevention and control strategies for cancers prevalent in the region.

Sociodemographic profile of Nagaland		
	Population	**Literacy Rate (%)**
Males	1024649	82.80
Females	953853	76.10
Total	1978502	79.45

Source: [1]

PBCR Coverage – Nagaland	
PBCR name	Nagaland
PBCR location	Naga Hospital, Kohima
Coverage area	Kohima & Dimapur
Year of establishment	2010
Number of sources of registration	30
Area (in Sq. km)	2390
Coverage of urban and rural area (%)	49.3 & 50.7

Profile of cancer in Nagaland [2]

Cancer is among the top five leading causes of death in the state. [3] In Nagaland, the proportion of nasopharyngeal cancer (14.3%) was highest among males, followed by stomach cancer (12.6%) and cancer of the oesophagus (10.6%). In females, the cervix uteri was the leading cancer site (16.4%), followed by the breast (12.2%) and stomach (11.3%). Over a third (39.3 %) of cancers in males and 11.5% in females were related to tobacco use related cancer sites, among which oesophagus (10.6%) and lung (3.7%) were leading sites in males and females.

Table.1.1 Number of cancer cases and Age-Adjusted Incidence Rate (AAR) per 1,00,000 population

	Nagaland	
Gender	**Number of New Cancer Cases**	**AAR**
Males	1403	124.5
Females	992	88.2

Table 1.2 Probability of one in number of Persons developing any of leading cancer in 0-74 age group in males & females.

Sl. No	**Nagaland**			
	Males		**Females**	
	Type of Cancer	**Probability**	**Type of Cancer**	**Probability**
1.	Stomach	1 in 50	Stomach	1 in 67
2.	Nasopharynx	1 in 60	Cervix uteri	1 in 72
3.	Oesophagus	1 in 61	Breast	1 in 109
4.	Hypopharynx	1 in 93	Nasopharynx	1 in 154
5.	Lung	1 in 96	Thyroid	1 in 189

1.3 Availability of Health Services related to Cancer Care in Nagaland State

The geographical indisposition, rugged terrain, vast hilly areas, and many ethnic groups contribute to the shortage of quality cancer-related health care facilities. Treatment seeking behaviour and delay in diagnosis often impact the mortality of the population in Nagaland. The public health cancer continuum ranges from prevention to screening to treatment, including palliative care.

Table. 1.3 Availability of public health care services

A. Public sector health facilities [4,5,6]	Number
Sub centres (SC)	415
Health and Wellness Centre - Sub Centre (HWC-SC)	103
Primary Health Centres (PHC)	137
Health and Wellness Centre - Primary Health Centre (HWC-PHC)	46
Community Health Centres (CHC)	21
Sub-district Hospitals (SDH)	00
District Hospitals (DH)	11
Number of government allopathic doctors and dental surgeons	372
B. Tertiary health care facilities	
Medical Colleges[7]	00
State cancer institute[8]	00
Regional cancer care centre[9]	00
C. State government health scheme [10]	**Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)**

1.5 Background

This survey was conducted as a part of Cancer Research in the North East Region (CaRes NER), a multidisciplinary programme for preventing and controlling cancer in the north-eastern states run by ICMR-NCDIR, Bengaluru. It aims to form a baseline database of cancer and other NCD-related risk factors for comparison in subsequent surveys, which would help establish an NCD risk factor surveillance program. As cancer registration is an integral part of cancer surveillance, ongoing surveillance of risk factors will correlate with cancer incidence and risk factors. Moreover, with the set time-bound and attempts provided by NCD targets (10) and indicators (21) by 2025 [11] to achieve universal health coverage, ongoing surveillance would determine outcomes of national health programmes. Therefore, the establishment of a surveillance system is of vital importance to track changes and evaluate interventions.

The survey objectives were as follows.

1.6 Objectives

1.6.1 Primary objective

To generate key cancer and other NCD related risk factors and health system response indicators in the PBCR covered regions of Nagaland.

1.6.2 Secondary objectives

To set a baseline to monitor and track trends in the prevalence of risk factors associated with cancer and other NCDs in the PBCR covered regions of Nagaland.

To link or correlate risk factors with cancer incidence in the region. The survey included four broad components

1. Household level Interview
2. Adult Interview
3. Cancer patient interview
4. Health Facility Interview

Chapter 2: Methodology

2.1 Survey Design

A cross sectional survey design was used to cover the target study population. A multistage cluster sampling was adopted for the survey. The population from the 2011 census was sorted by state, district, sub-district, town/village code, ward number to identify survey Primary Sampling Units. (PSUs). Similar to the National NCD Monitoring Survey, the study procedures consisted of household, adult and health facility level interviews. [12] Cancer patient interviews were also conducted if any such patient was identified in the selected household. Questions that were specific to cancer prevention and access to care were included in the study tools.

2.2 Study Population

The target population for the survey was defined as all residents aged 18 or above residing in their usual residence. The institutional population comprising those living in collective places like students' dormitories, hospitals, hotels, prisons, military barracks, etc., were not included in the survey.

2.3 Sample size

The sample size for the survey was worked out to obtain reliable estimates for cancer risk factors related to adults in Population Based Cancer Registry (PBCR) covering areas. The sample size was estimated by considering the objectives of estimating the prevalence of behavioural risk factors for cancer and other NCDs (including tobacco use, alcohol consumption, and physical inactivity). The sample size was 2880 for the state of Nagaland with 100% coverage by the PBCR as show in the table below:

Table 2.3.1 Sample size charting for the survey

Registry Name	State Name	State Total Population	State Total Population (Age 18+)	Total Population (Age 18+) covering PBCR	Total Population of Study site (as per census 2011)-(Age 18+)	% of under PBCR covering area	Total sample size per Study Site (Approximately)	Total PSUs (48 HH per PSU)
Nagaland - PBCR	Nagaland (2 Districts)	1978502	1156723	398456	398456	100	2880	60
Total Sample Size and Total PSU							**2880**	**60**

2.4 Data Collection Tools

The study tools used for different levels included (i) Household (ii) Adult (iii) Adult with cancer and (iv) Health facility (PHC or urban equivalent, CHC/ District Hospital and private facilities). These instruments were adapted from the National NCD Monitoring Survey (NNMS) to suit survey objectives. Standard references were used to define the data variables

2.5 Survey Period

The survey was conducted between November 2019 and December 2020.

2.6 Governance of Survey

The survey implementation was under the supervision, coordination and monitoring of the Central Coordinating Agency (CCA) at ICMR - National Centre for Disease Informatics & Research (NCDIR), Bengaluru. The CCA provided all technical and scientific assistance for the survey at all stages. It was responsible for overall coordination, monitoring, quality assurance, data maintenance, cleaning, analysis and report writing with the technical support from its partners. A team of experts were identified for survey supervision, monitoring and scientific guidance.

2.7 Quality Assurance and Training

The quality control measures were followed to standardise the survey at all stages and all levels of governance. This included preparing training materials, undertaking training, calibration and standardisation of equipment, data collection tools, field data collection and storage, handling blood samples and safe disposal mechanisms of the generated biomedical waste. A dashboard was created to monitor the live status of data collection and troubleshooting, or any queries or issues faced at the time of the field was solved through FAQ's and virtual calls.

Principal Investigator (PI) and Co-Principal Investigator (Co-PI) from the Nagaland PBCR were trained in all survey procedures as part of the CCA's two-day Training of Trainers program held between 30th September – 1st October, 2019 at ICMR-NCDIR, Bengaluru. A classroom-based training, demonstrations, hands-on and mock field drills were undertaken for the research team from 3rd – 5th December, 2019, at Dr B Borooah Cancer Institute, Guwahati, Assam.

2.8 Data Management and Analysis

The field team used the handheld devices loaded with the software application for data collection and entered the data in field. Provision of keeping back up of data in SD cards in the handheld was also present. The data from the handheld devices were uploaded/ synced to the Central server at ICMR-NCDIR.

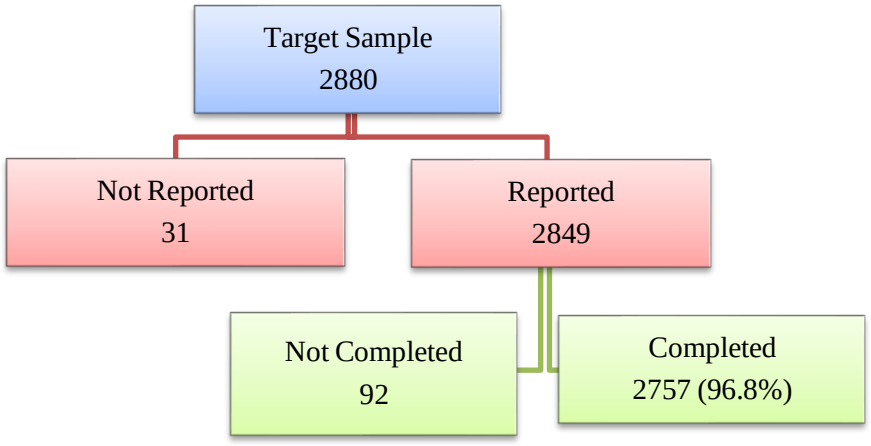
The data from all PSUs' were compiled and cleaned, following which weighting procedures were followed for adjusting for sampling and population proportions and response rates. The detailed statistical analysis plan was prepared based on the identified indicators and subgroups. The data analysis was done using STATA 14.1 with prior developed analysis commands by complex survey analysis. The survey results have been presented by descriptive statistics with means and proportions with 95% confidence intervals (CIs) as a measure of precision on the estimated population parameters.

2.9 Ethical Considerations

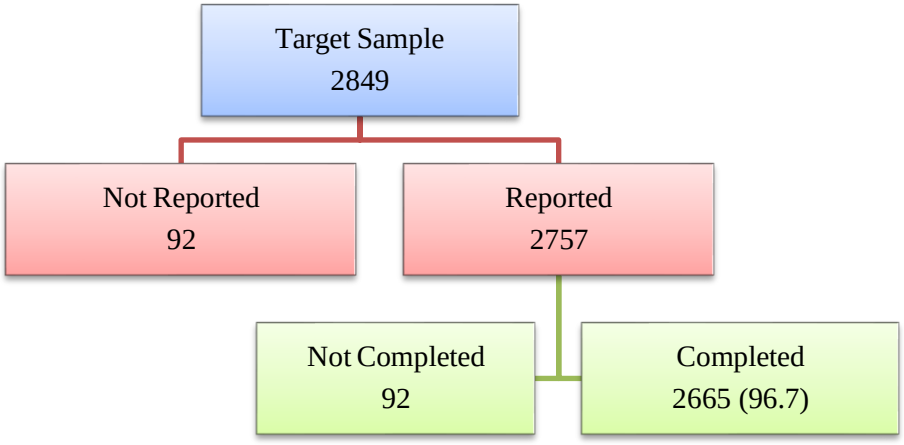
Nagaland PBCR received its institutional ethical clearance from their institutional ethics committee (NHAK/CMS/E/2019/95). The survey received ethical clearance from the Ethics review committee of the CCA,ICMR – NCDIR (NCDIR/IEC/2017/2).

Chapter 3: Survey Results

Household Response Rate



Adult – level Response Rate



A. Household level interview

3.1 Household Characteristics

3.1.1 Average size of the household by place of residence*

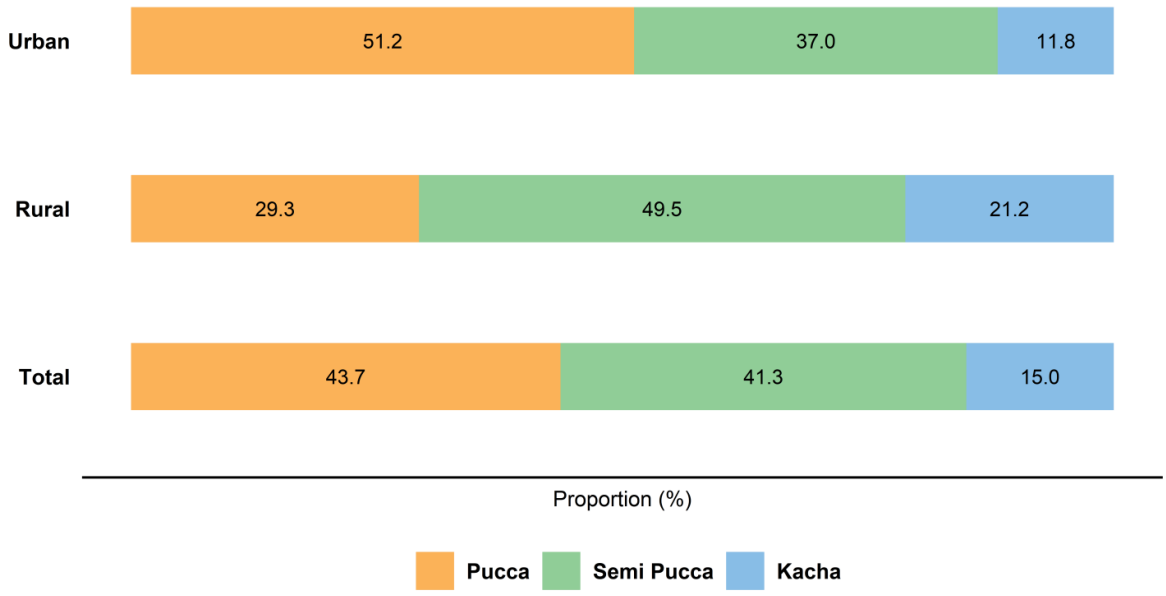
	Urban	Rural	Combined
Median (IQR*)	4 (2)	4 (2)	4 (2)

*Size of the household- Number of members in the household [*IQR: - Interquartile Range]*

**Household: A person or group of persons who could be biologically related/not related, living together in the same unit(s), who recognise a joint head of the household (an adult male or female) and are considered a single unit, sharing the same household arrangements.*

3.1.2 Household characteristics by place of residence (Percentage)

3.1.2 (a) Type of House*



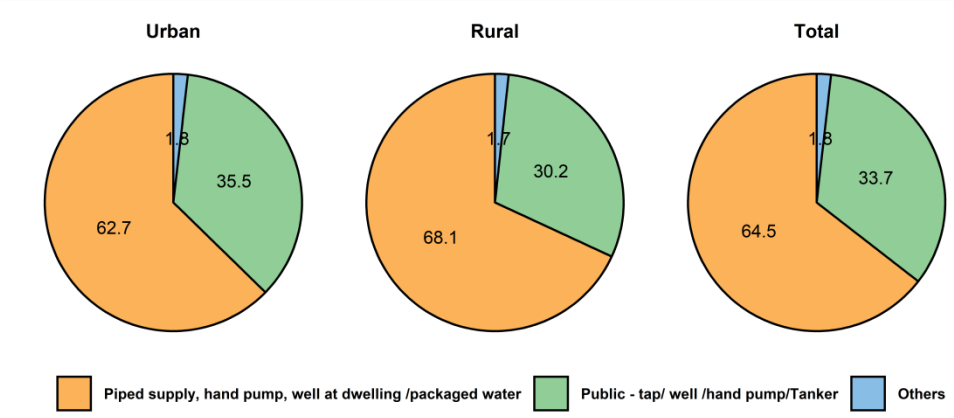
* ***Type of house*** *is defined based on roof, floor and walls.*

Pucca house*: A pucca house is one, which has walls and a roof made of the following material. Wall material include burnt bricks, stone and cement. Roof material includes tiles, cement, iron or asbestos sheets*

Semi pucca house: *A house with fixed walls made up of pucca material, but the roof is made up of material other than those used for pucca house.*

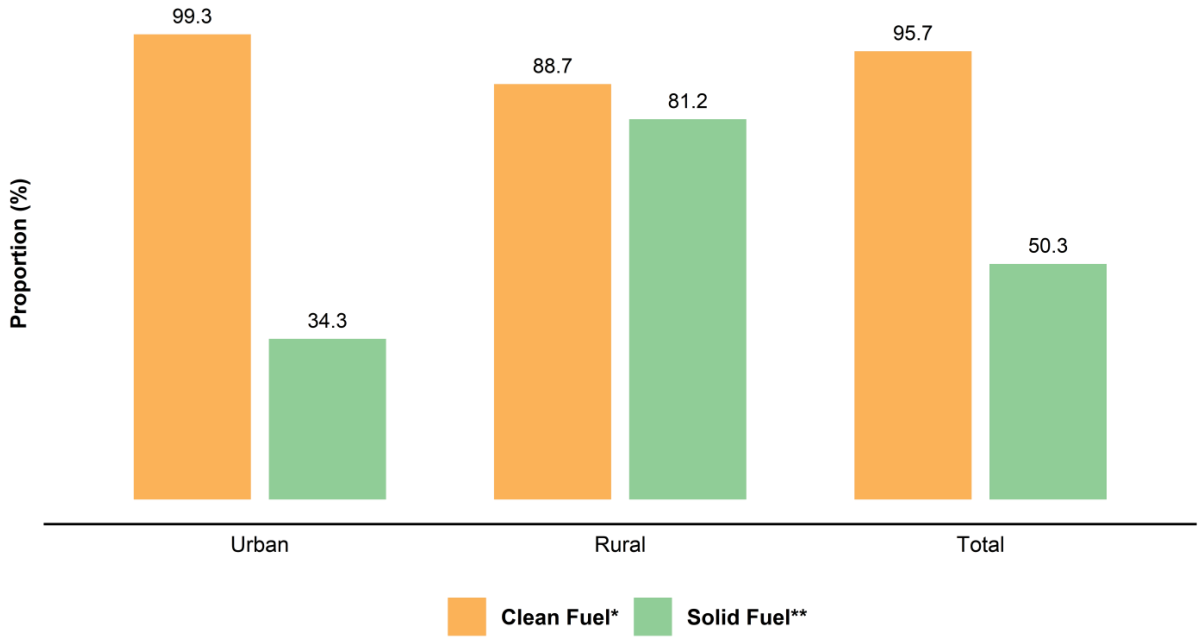
Kutcha House: *The walls and/or roof are made of material other than those mentioned above, such as unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc.*

3.1.2 (b) Main source of drinking water



3.1.3 Fuel used for cooking and type of kitchen among households by place of residence (Percentage)

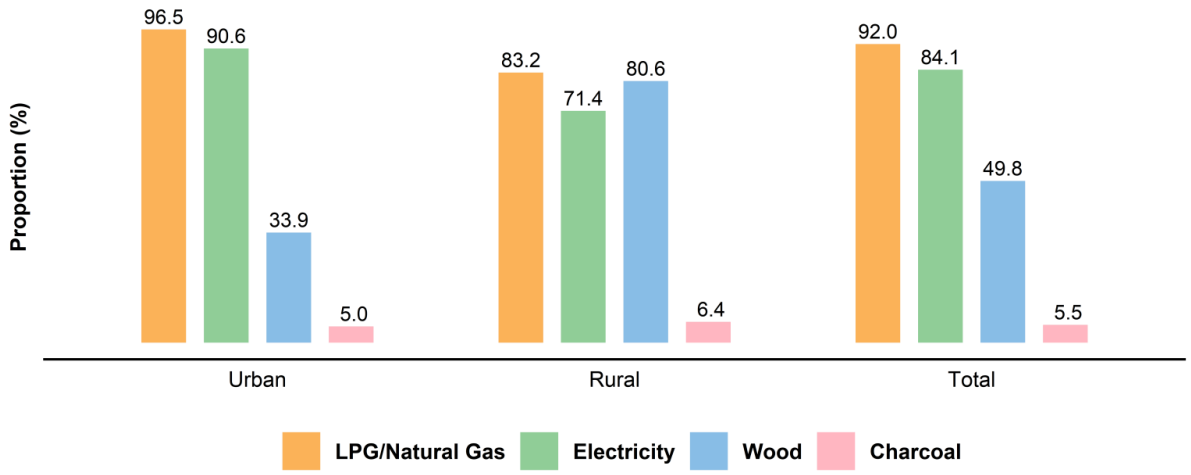
3.1.3 (a) Type of fuel



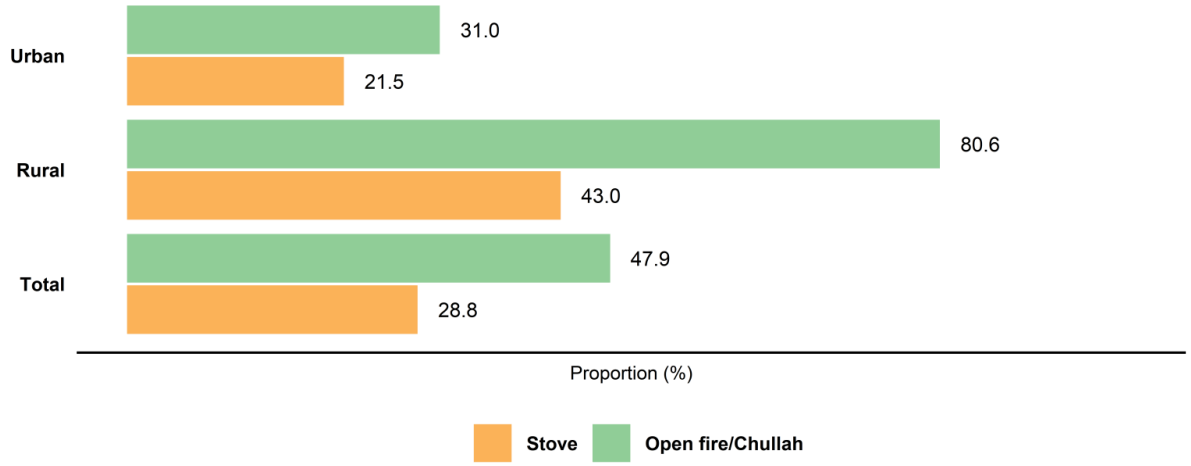
**Clean fuel: Electricity, LPG/Natural Gas, Biogas*

***Solid Fuel: Charcoal, Coal/lignite, wood, Straw/Shrubs/Grass, Agricultural crop waste, Dung cakes*

3.1.3 (b) Type of fuels used for cooking purposes



3.1.3 (c) Type of stove/ fire used among house holds using solid fuels



3.2 Awareness and Attitudes Towards Cancer (%)

	Urban	Rural	Combined
Awareness about HPV Vaccine	0.7	0.1	0.5
Felt ashamed or hesitant to talk about cancer	0.7	1.9	1.1

3.3 Descriptive Profile of Cancer Cases Identified at the Household Level

3.3.1- Households with cancer cases by place of residence

	Urban (N=1303)	Rural (N=1362)	Combined (N=2665)
Percentage of households with diagnosed cancer cases			
Percentage – alive	16 (1.2)	8 (0.6)	24 (0.9)
Percentage – deceased	47 (3.6)	33 (2.4)	80 (3)

3.3.2 - Duration of Cancer from the time of diagnosis by place of residence

	Urban	Rural	Male	Female	Combined
Duration of diagnosis for cancer patients who were alive during the survey*	**(N=16)**	**(N=8)**	**(N=9)**	**(N=15)**	**(N=24)**
< 6 months	3 (18.8)	1 (12.5)	4 (44.4)	0 (0.0)	4 (16.7)
6-12 months	1 (6.2)	0 (0.0)	0 (0.0)	1 (6.7)	1 (4.1)
13– 24months	3 (18.8)	3 (37.5)	4 (44.4)	2 (13.3)	6 (25.0)
> 24 months	7 (43.7)	2 (25.0)	1 (11.2)	8 (53.3)	9 (37.5)
Don't know	2 (12.5)	2 (25.0)	0 (0.0)	4 (26.7)	4 (16.7)
Duration between diagnosis and death of the patient *	**(N=49)**	**(N=34)**	**(N=38)**	**(N=45)**	**(N=83)**
< 6 months	11 (22.4)	13 (38.2)	9 (23.7)	15 (33.3)	24 (28.9)
6-12 months	4 (8.2)	0 (0.0)	2 (5.3)	2 (4.5)	4 (4.8)
13– 24months	13 (26.5)	2 (5.9)	6 (15.8)	9 (20.0)	15 (18.1)
> 24 months	12 (24.5)	11 (32.4)	14 (36.8)	9 (20.0)	23 (27.7)
Don't know	9 (18.4)	8 (23.5)	7 (18.4)	10 (22.2)	17 (20.5)

**Prior to the date of interview: extracted from the date of diagnosis*

*3.3.3 - Duration of Cancer (in months) by place of residence (Mean)**

	Urban	Rural	Combined
Average duration of cancer **(**alive**)**	55.4	40.0	19.3
Average duration of cancer **(**deceased**)**	21.7	24.8	26.5
Average duration of cancer **(**alive**/**deceased**)**	30.5	27.7	24.9

**Extracted from the date of diagnosis*

B. Adult Level Interview

3.4 Demographic Characteristics of Adults by Place of Residence and Gender

3.4.1 Socio -demographic characteristics of adults by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Age (in years)					
18–44	78.0	70.8	73.4	75.1	74.2
45 –69	19.7	25.8	24.2	21.6	22.9
70 and above	2.3	3.4	2.4	3.3	2.9
Marital Status					
Never married	23.8	14.6	21.8	15.8	18.9
Currently married/ cohabiting	71.8	80.6	76.9	75.9	76.4
Separated/Not living together/ Divorced	1.0	0.5	0.7	0.9	0.8
Widowed	3.3	4.3	0.5	7.4	3.8
Undisclosed	0.1	0.0	0.1	0.0	0.1
Highest level of Education					
Less than class 6	12.1	19.6	13.9	18.1	15.8
Class 6 to 10	37.3	50.0	42.2	45.2	43.6
Class 11 or 12	21.2	15.0	19.3	16.7	18.2
Graduation or diploma completed	21.8	11.6	18.7	14.3	16.7
Post-graduation	7.5	3.8	5.9	5.6	5.7
No response	0.1	0.04	0.0	0.1	0.05
Occupation					
Professional	18.0	12.2	22.0	7.3	15.0
Medium or large Business	3.9	0.5	3.8	0.3	2.1
Middle / Senior Executive/officer in organization	4.0	2.9	5.4	1.1	3.4
Agricultural land owner	0.1	2.8	2.2	0.9	1.6
Sales and Marketing executives/Clerical	2.3	0.7	1.8	1.1	1.5
Self-employed and small business	15.8	12.0	21.2	5.7	13.8
Skilled manual labourer	7.0	5.4	11.7	0.1	6.1
Unskilled manual/agricultural labourer	1.2	10.4	6.3	5.8	6.0
Student	7.8	3.8	5.9	5.4	5.7
Homemaker	27.9	33.5	0.1	64.5	30.8
Retired	3.0	2.4	4.1	1.1	2.7
Unemployed (able to work)	7.9	11.1	12.9	6.0	9.6
Unemployed(unable to work)	0.6	2.1	2.1	0.6	1.4
No response	0.1	0.1	0.1	0.0	0.1
Others	0.4	0.1	0.4	0.1	0.2

3.4.2 Religion and Social Status of adults by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Religion					
Hinduism	26.3	13.1	21.3	17.1	19.3
Islam	5.4	4.6	6.2	3.7	5.0
Christian	67.8	82.1	72.2	78.8	75.4
Sikhism	0.0	0.0	0.0	0.0	0.0
Buddhism	0.3	0.2	0.2	0.3	0.2
Jainism	0.2	0.0	0.1	0.1	0.1
Social Group					
General	26.5	9.1	19.7	14.6	17.2
OBC	4.1	2.8	4.3	2.4	3.4
SC	1.3	2.4	2.1	1.7	1.9
ST	67.6	82.5	71.7	79.8	75.5
Don't know	0.4	3.2	2.1	1.5	1.9
Others	0.1	0.0	0.1	0.0	0.1

3.5 Obstetric History of Adult Females

	Urban	Rural	Total
Ever Pregnant (%)	66.3	82.1	74.9
Age at first Pregnancy (%)			
<18 Years	5.4	4.9	5.1
18 – 29 Years	82.1	85.6	84.2
≥ 30 Years	12.5	9.5	10.7
Average age at first pregnancy*(in years)	23	23	23
Gravida*#	2.3	2.6	2.5
Ever breast fed	98.4	97.3	97.7
Never breast fed	1.6	2.7	2.3
Mean/Median duration(in months) of breastfeeding among ever pregnant women[@]	33.3	42.5	38.8

**Values are expressed as Mean;*

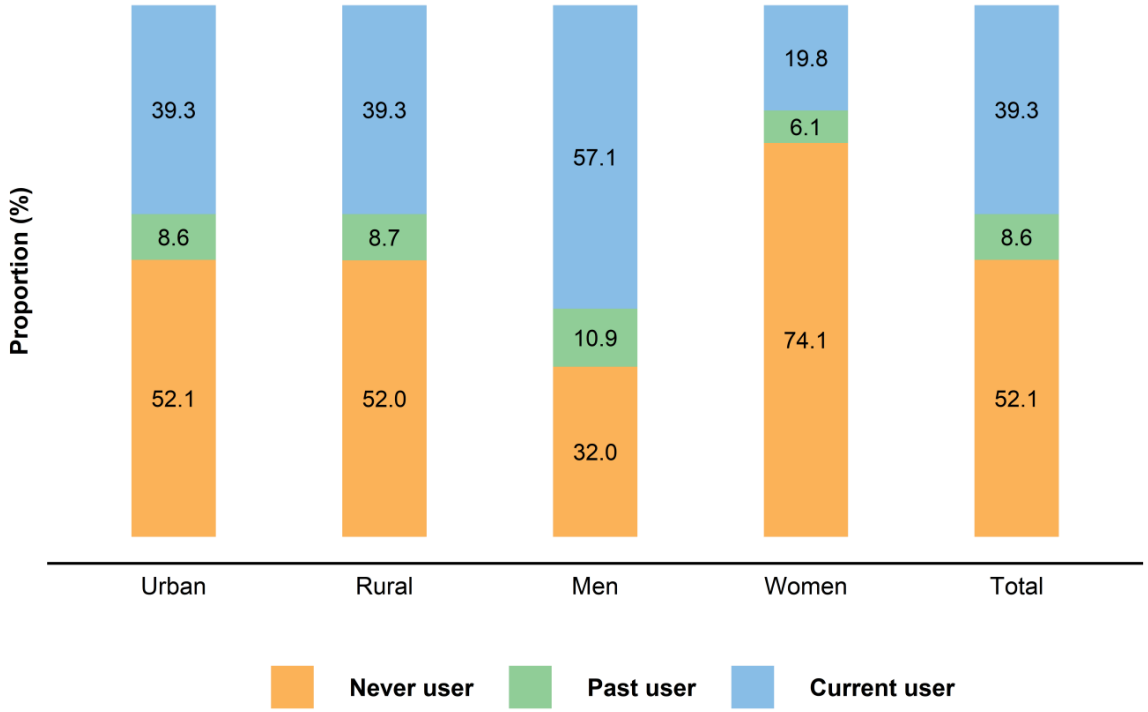
[#]includes total number of confirmed pregnancies that a woman has had (includes abortion, still births or live births)

[@]Combined breast feeding duration of all live births

3.6 Behavioural Characteristics

3.6.1 Tobacco use

3.6.1.1 - Prevalence of tobacco use (any form) by residence and gender



3.6.1.2 - Prevalence of smoked tobacco use by place of residence and gender (percentage)

	Urban	Rural	Men	Women	Total
Never user*	78.0	73.5	57.0	96.0	75.6
Past user**	9.8	12.4	18.6	3.1	11.2
Current user***	12.2	14.1	24.4	0.9	13.2

**A person who has never smoked/used smokeless tobacco during their lifetime.*

***Use of smoke and/or smokeless tobacco in the past either daily or occasionally prior to 12 months preceding the survey*

****Use of any form of tobacco (smoke and/or smokeless) over the last 12 months preceding the survey.*

***3.6.1.3** - Smokeless tobacco use by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Never user	56.9	61.8	44.6	75.9	59.5
Past user	7.3	4.0	6.2	4.8	5.5
Current user	35.8	34.2	49.2	19.3	35.0

3.6.1.4 - Type of current Tobacco use among adults by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Only Smoked Tobacco	3.5	5.1	7.9	0.5	4.3
Only Smokeless Tobacco	27.1	25.2	32.7	18.8	26.1
Both Smoked and Smokeless Tobacco	8.7	9.0	16.5	0.5	8.9
Either Smoked or Smokeless Tobacco	39.3	39.3	57.1	19.8	39.3

3.6.1.5 - Current daily tobacco use by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Only Smoked Tobacco	3.1	4.9	7.7	0.1	4.1
Only Smokeless Tobacco	21.2	21.1	29.8	11.6	21.2
Both Smoked and Smokeless Tobacco	3.8	5.6	9.1	0.0	4.7
Either Smoked or Smokeless Tobacco	28.1	31.6	46.6	11.7	30.0

** Use of any form of tobacco (smoke and/or smokeless) daily over the last 12 months preceding the survey*

3.6.1.6 - Current daily tobacco use by type of product, place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Smoked Tobacco					
Bidis	40.6	65.4	56.2	8.4	54.6
Manufactured Cigarettes	27.7	28.6	28.7	12.8	28.2
Hand-rolled Cigarettes	6.3	1.1	3.4	0.0	3.3
Pipes /Chilam	0.0	0.0	0.0	0.0	0.0
Cigars, Cheroots	2.5	0.2	1.3	0.0	1.2
Hookah/No. of Shisha session	0.0	0.0	0.0	0.0	0.0
Local smoked tobacco products	1.5	0.0	0.7	0.0	0.6
Others	0.0	0.0	0.0	0.0	0.0
Smokeless Tobacco					
Chewing tobacco	55.1	67.5	67.5	44.7	61.5
Pan with *Zarda*, Betel with Tobacco quid	39.1	26.7	32.0	34.5	32.7
Tuibur, Tobacco Snuff, by mouth	2.6	8.7	6.5	3.7	5.7
Snuff, by nose	0.3	0.0	0.2	0.0	0.2
Others	0.6	0.0	0.4	0.0	0.3

**Among current users*

3.6.1.7 - Age (in years) at initiation and cessation of different forms of tobacco use by place of residence and gender (Mean)

	Urban	Rural	Men	Women	Total
Age at initiation					
Any form of tobacco*	20.7	20.0	19.8	21.7	20.3
Smoked tobacco	20.0	18.9	19.3	19.6	19.3
Smokeless tobacco	21.2	21.2	20.9	22.0	21.2
Age at cessation					
Any form of tobacco**	26.5	28.5	28.6	24.0	27.5
Smoked tobacco	25.8	27.7	27.9	20.6	26.9
Smokeless tobacco	27.3	32.1	31.1	25.6	28.8

**Minimum age of smoked and smokeless tobacco use*

***Maximum age of smoked and smokeless tobacco use*

3.6.1.8 - Duration (years) of tobacco use among past users by place of residence and gender (Mean)*

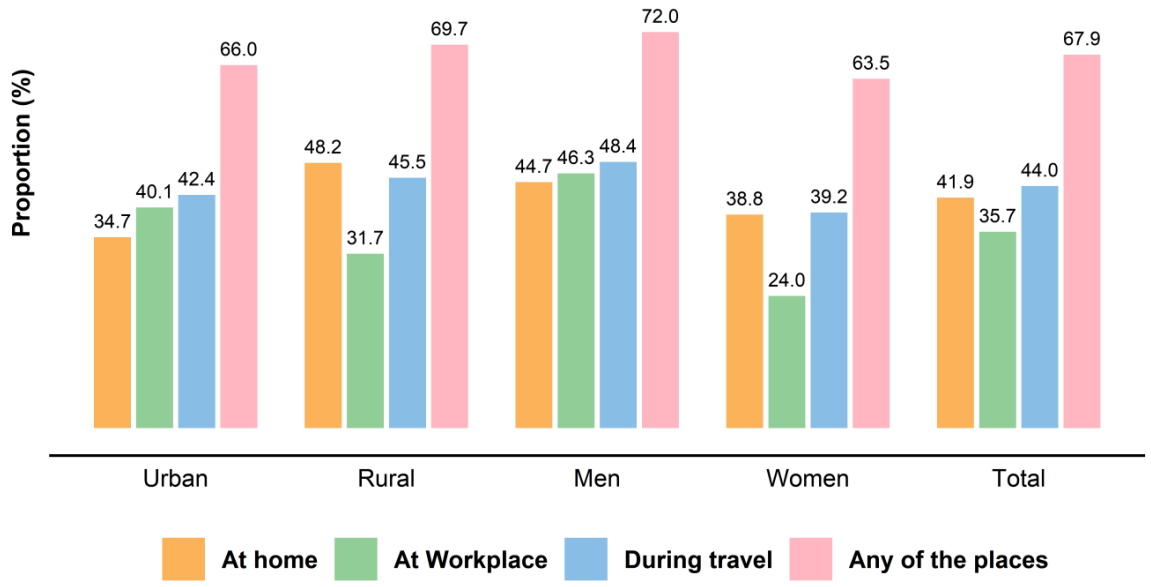
	Urban	Rural	Men	Women	Total
Any form of tobacco	7.5	9.9	10.3	3.4	8.7
Smoked tobacco	6.6	9.2	9.3	0.6	8.1
Smokeless tobacco	7.7	10.2	11.4	4.5	8.4

3.6.1.9 - Personal attempts to quit and advised to quit tobacco use by doctor/health worker by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Attempted to quit					
Smoked tobacco (among current users)	19.4	9.5	14.0	7.2	13.8
Advised to quit					
Any form of tobacco use	4.7	1.8	3.5	2.7	3.2
Smoked tobacco use	3.9	1.3	2.5	2.4	2.5
Smokeless tobacco use	4.4	1.2	2.8	2.5	2.7

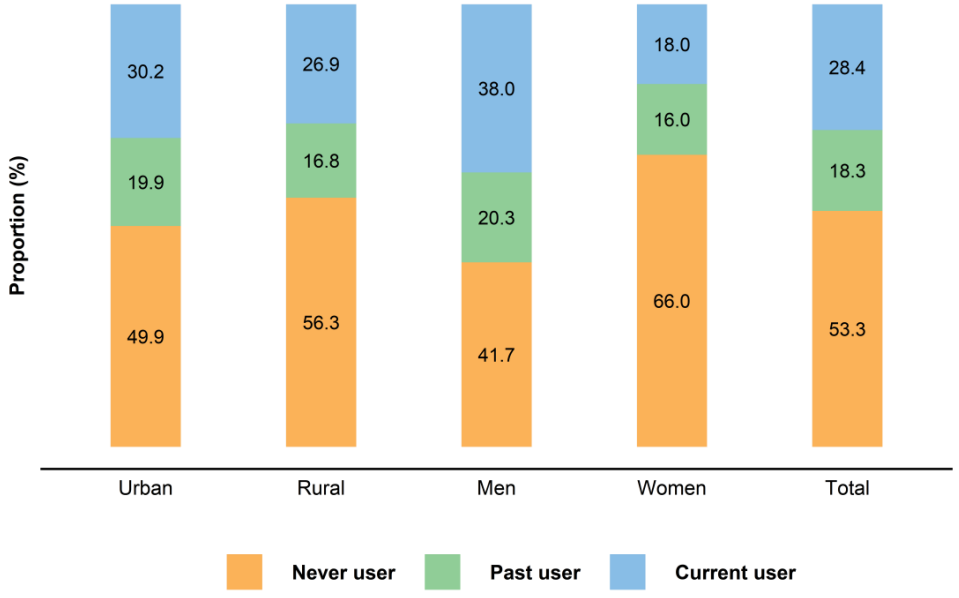
3. 6. 2 Exposure to Second Hand Smoke

3.6.2.1 - Exposure to second hand tobacco smoke in the past 30 days by place of residence and gender (Percentage)



3.6.3 Non – Tobacco Betel Products

*3.6.3.1 - Consumption of betel products without tobacco (any form) * by place of residence and gender (Percentage)*



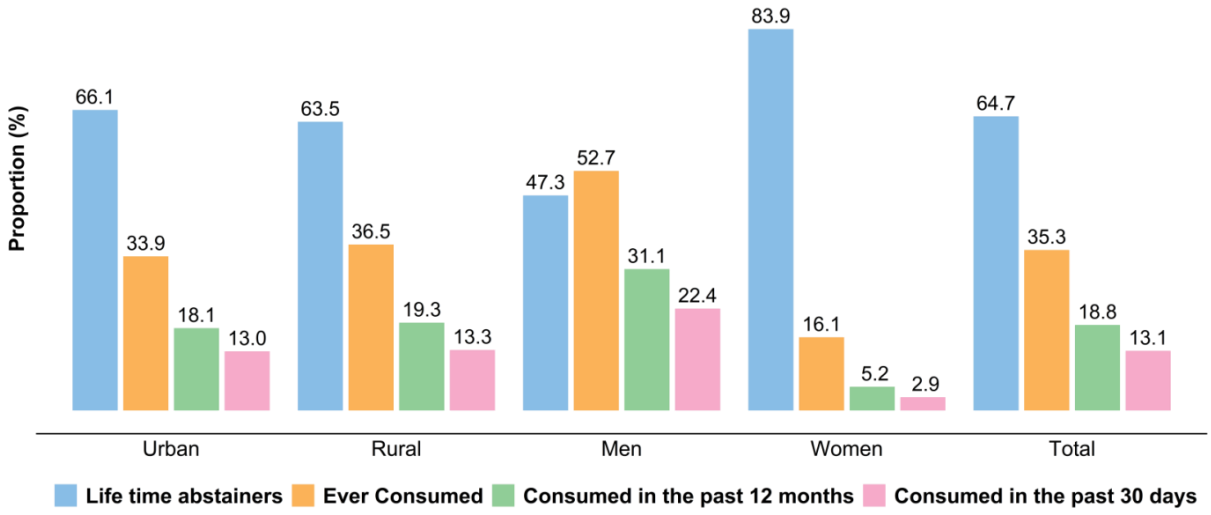
**Includes pan masala, betel quid, areca nut.*

3.6.3.2- *Consumption of different betel products without tobacco by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Pan Masala					
Never user	64.5	77.5	63.5	80.0	71.4
Past user	16.3	9.6	14.2	11.2	12.7
Current user	19.2	12.9	22.3	8.8	15.9
Betel quid					
Never user	71.8	76.8	67.7	81.9	74.5
Past user	14.9	12.1	16.3	10.2	13.4
Current user	13.3	11.1	16.0	7.9	12.1
Areca nut					
Never user	64.6	65.1	55.3	75.4	64.8
Past user	19.7	18.6	22.6	15.3	19.2
Current user	15.7	16.3	22.1	9.3	16.0

3.6.4 Alcohol Use

3.6.4.1 - Alcohol use by place of residence and gender (Percentage)*



**Lifetime abstainer: A person who has never consumed one or more drink of any type of alcohol in their lifetime.*

Ever consumed: A person who has consumed any of the alcoholic products (such as beer, wine, whisky, locally prepared alcohol etc.) at least once in their lifetime.

Current alcohol use: Consumption of alcohol in the last 12 months preceding the survey.

3.6.4.2 – Age (in years) of initiation of Alcohol consumption by place of residence and gender (Mean)

	Urban	Rural	Men	Women	Total
Age of initiation of Alcohol consumption	21.2	20.9	20.7	22.1	21.0

3.6.4.3 - Patterns of alcohol use in the past 12 months by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Unable to stop drinking					
Never	71.8	84.7	77.5	87.8	78.8
Daily/ almost daily	4.3	0.9	2.8	0.0	2.5
Weekly	9.1	5.5	7.5	4.9	7.1
Monthly	8.1	2.4	5.1	4.4	5.0
Less than Monthly	2.2	5.2	4.4	0.0	3.8
Failed to do usual routine work due to drinking habit					
Never	78.6	89.0	82.8	94.5	84.3
Daily/ almost daily	0.9	0.4	0.7	0.0	0.6
Weekly	3.6	1.8	2.7	1.8	2.6
Monthly	6.3	0.4	3.4	0.9	3.1
Less than Monthly	0.3	4.5	3.0	0.0	2.6
Need of first drink in the morning					
Never	80.9	90.0	84.2	97.0	85.9
Daily/ almost daily	0.9	0.1	0.6	0.0	0.5
Weekly	3.6	2.5	3.1	1.8	3.0
Monthly	2.4	0.8	1.8	0.0	1.5
Less than Monthly	0.4	4.3	2.9	0.0	2.5

**Among those who consumed alcohol in the past 12 months*

***3.6.4.4** - Heavy episodic drinking* among adults in the past 30 days by age category, place of residence and gender (Percentage)*

≥6 standard drinks **	Urban	Rural	Men	Women	Total
18- 44 Years	5.6	7.2	12.0	0.5	6.5
45 – 69 Years	3.4	7.1	8.0	2.6	5.6
70 years and above	0.0	2.4	0.0	2.7	1.5
18+ years	5.1	7.0	10.7	1.0	6.1

**Drinking ≥6 standard drinks in a single drinking occasion*

***Contains a net pure alcohol content of 10 gm*

3.6.4.5- Received advice to avoid alcohol use by doctor/health worker in the last one year by age category, place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
18- 44 Years	3.0	1.3	2.2	2.1	2.1
45 – 69 Years	5.7	1.8	4.4	2.1	3.3
70 years and above	5.6	0.0	2.0	2.1	2.0
18+ years	3.6	1.4	2.7	2.1	2.4

3.6.5 Diet

3.6.5.1 - Number of days of consumption of fruits, vegetables and fruit or vegetable juices in a week by place of residence and gender (Mean)

	Urban	Rural	Men	Women	Total
Fruits	2.7	2.4	2.4	2.6	2.5
Vegetables	5.7	5.7	5.6	5.8	5.7
Fruits and/or Vegetables	5.7	5.8	5.7	5.8	5.8
Fruit or Vegetable juice**	1.5	1.3	1.3	1.4	1.4

3.6.5.2 - Number of servings of fruits, vegetables and fruit or vegetable juices consumed per day by place of residence and gender (Mean)

	Urban	Rural	Men	Women	Total
Fruits	0.5	0.4	0.4	0.5	0.5
Vegetables	1.8	1.6	1.7	1.7	1.7
Fruits and/or Vegetables*	2.3	2.0	2.1	2.2	2.2
Fruit or Vegetable Juice**	0.3	0.2	0.2	0.2	0.2

**One standard serving of fruits and/or vegetables is equivalent to 80-100 grams.*

The quantity of intake was measured by servings; for vegetables, this refers to one cup of raw, leafy green vegetables (spinach, salad etc.), half cup of other vegetables, cooked or raw (tomatoes, pumpkin, beans etc.), or a half cup of vegetable juice.

For fruits, this refers to one medium-sized piece of fruit (banana, apple etc.) or a half cup of raw, cooked or canned fruit.

*** Includes fresh juice made at home/shop.*

3.6.5.3 - Number of days of Consumption of different meat items (any form) in a typical week by place of residence and gender (Mean)

	Urban	Rural	Men	Women	Total
Birds/Poultry	1.5	1.5	1.5	1.5	1.5
Fish	1.8	1.4	1.6	1.6	1.6
Red Meat	2.3	2.2	2.2	2.2	2.2
Either Birds/Poultry or Fish or Red Meat*	2.6	2.4	2.5	2.5	2.5

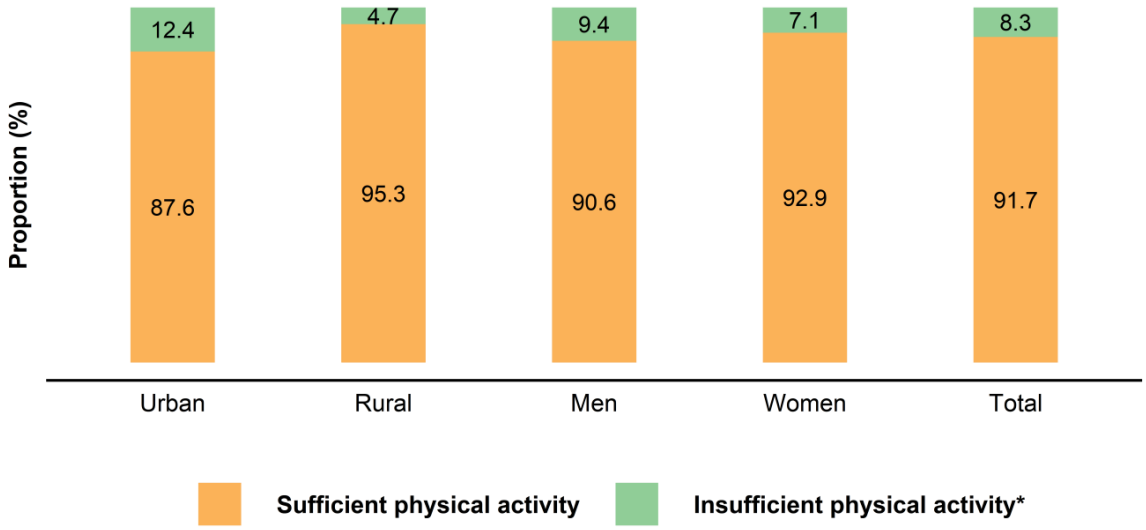
**If an adult consumed more than one meat item, the maximum number of days for any one item was considered*

3.6.5.4 - Consumption of preserved/salt curated and fermented products among adults by place of residence and gender

	Urban	Rural	Men	Women	Total
Percentage of consumption	79.4	90.1	84.3	86.0	85.1
Mean number of days of consumption per week	3.1	3.7	3.3	3.5	3.4

3.6.6 Physical Activity

3.6.6.1 - Levels of physical activity by place of residence and gender (Percentage)



**Insufficient physical activity less than 150 minutes of moderate – intensity physical activity per week OR <75 minutes of vigorous – intensity physical activity per week OR an equivalent combination of moderate – and vigorous intensity physical activity accumulating at least 600 MET minutes per week*

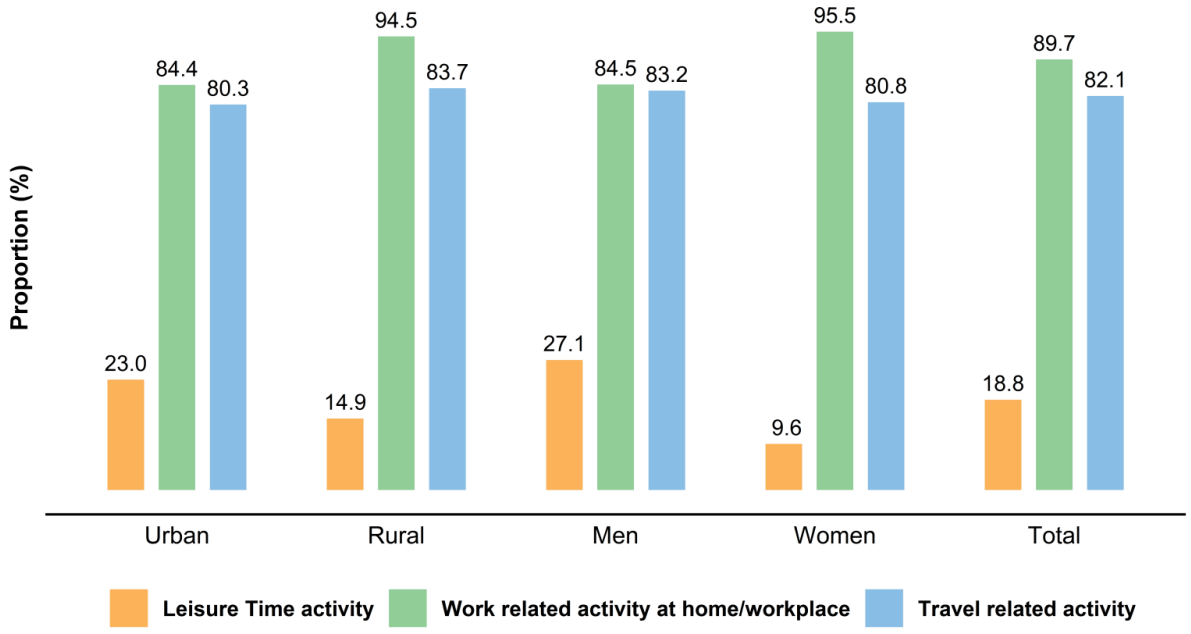
3.6.6.2 - Nature of physical activity in which the participants are engaged by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Routine work at home/workplace					
Vigorous-intensity activity*	19.7	46.8	35.9	32.0	34.0
Moderate intensity activity**	82.1	91.5	79.7	95.2	87.1
Recreational/leisure activities					
Vigorous-intensity activity	4.8	9.2	13.3	0.4	7.1
Moderate intensity activity	20.9	10.7	21.0	9.5	15.5

**An activity which requires hard physical effort, and causes one to breathe much harder than normal.*

*** An activity that requires moderate physical effort and causes one to breathe somewhat harder than normal.*

3.6.6.3 - Proportion of work, transport and leisure activity contributing to total activity by place of residence and gender (Percentage)



***3.6.6.4** - Received Advice to increase physical activity by doctor/health worker in the last one year by age category, place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
18- 44 Years	3.6	1.6	2.4	2.8	2.6
45 – 69 Years	7.7	1.7	4.8	3.3	4.1
70 years and above	11.7	2.3	5.4	6.1	5.8
18+ years	4.6	1.7	3.0	3.0	3.0

3.6.7 High risk behaviour and Sexually Transmitted Infections

3.6.7.1- Responses to questions on sexual behaviour by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Responded	45.4	58.1	52.0	52.3	52.1

3.6.7.2- Age at first sexual intercourse by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
<15 Years	1.4	0.3	0.4	1.1	0.7
15 – 19 Years	30.7	32.0	22.8	40.8	31.4
20 -24 Years	39.5	43.4	44.5	39.1	41.9
> 25 Years	28.3	24.3	32.3	19.0	25.9

3.6.7.3 *- Number of sexual partners by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Single sexual partner	75.8	84.2	77.0	83.8	80.3
Multiple sexual partner*	5.2	7.1	10.6	1.4	6.2

**Two or more sexual partners*

3.6.7.4 - Mean age at first sexual intercourse by place of residence and gender (Mean)

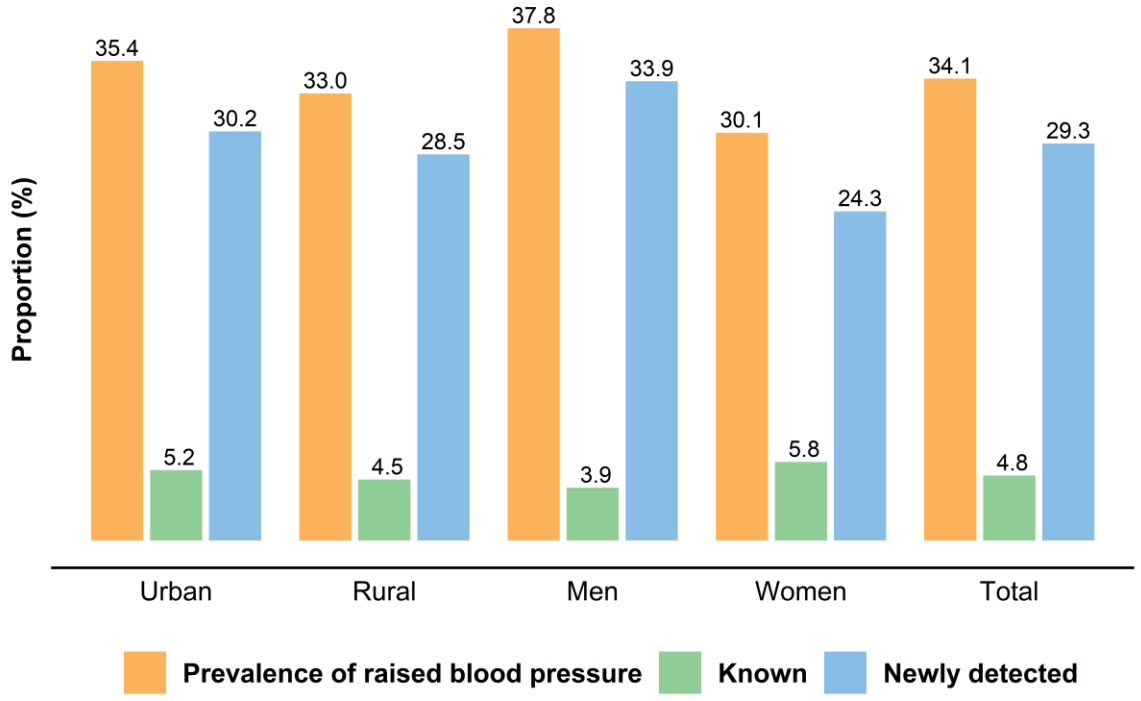
The mean age at first sexual intercourse was 22 years, which was slightly lower among women (21.2years) than men (22.7 years)

3.6.7.5 - High risk behaviour and Sexually Transmitted Infection (STI) among adults by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Ever had STI	0.2	0.0	0.2	0.0	0.1
Type of symptoms					
Urethral /vaginal discharge	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Blisters or ulcers (sores) on the mouth, lips, genitals, anus, or surrounding area	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Burning or pain during urination	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Warts or bumps on the genitals, anus, or surrounding areas	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Small, dimpled bumps or lesions on the skin	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

3.7 Blood Pressure Measurement

*3.7.1 - Raised Blood Pressure *by place of residence and gender (Percentage)*



**Raised Blood Pressure – Systolic BP≥140 and/or diastolic blood Pressure ≥90*

3.7.2- Blood Pressure categories among those measured by place of residence and gender (Percentage)

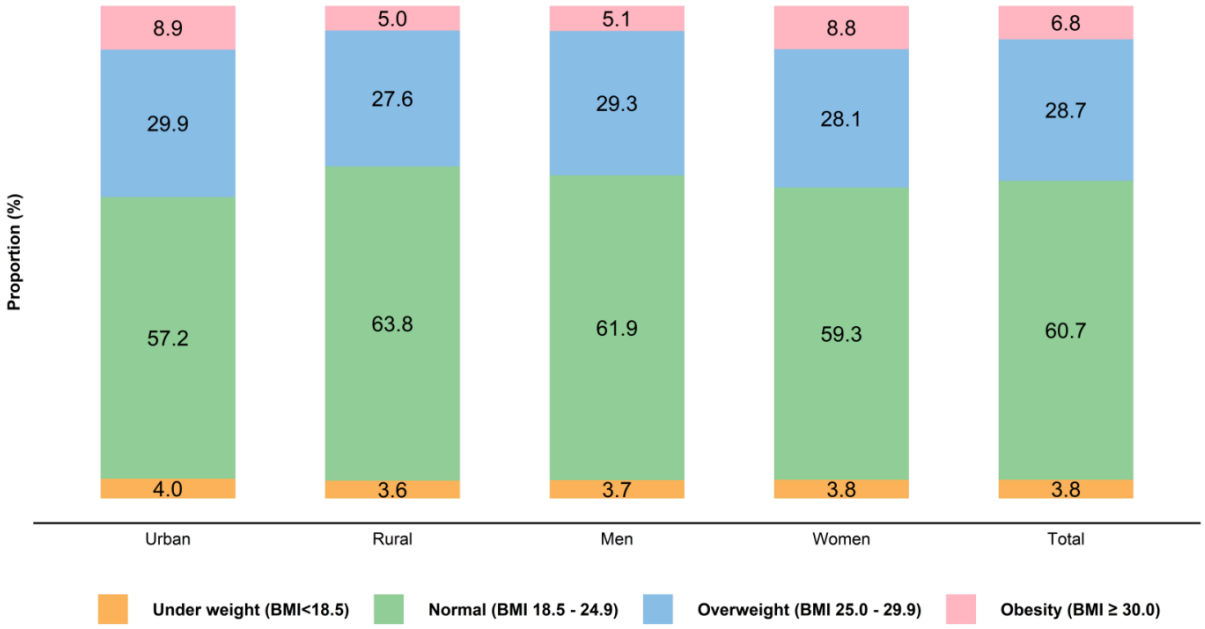
	Urban	Rural	Men	Women	Total
Normal	14.4	9.8	7.8	16.5	11.9
Pre - Hypertension	50.8	58.1	55.0	54.3	54.7
Hypertension – Stage 1	24.4	23.0	27.8	19.2	23.7
Hypertension – Stage 2	10.4	9.1	9.4	10.0	9.7

*** Normal-(SBP <120, DBP<80); Pre – hypertension (SBP: 120-139, DBP: 80-89); Hypertension Stage 1(SBP: 140 -159, DBP: 90-99); Hypertension Stage 2(SBP≥160; DBP≥100) among measured.*

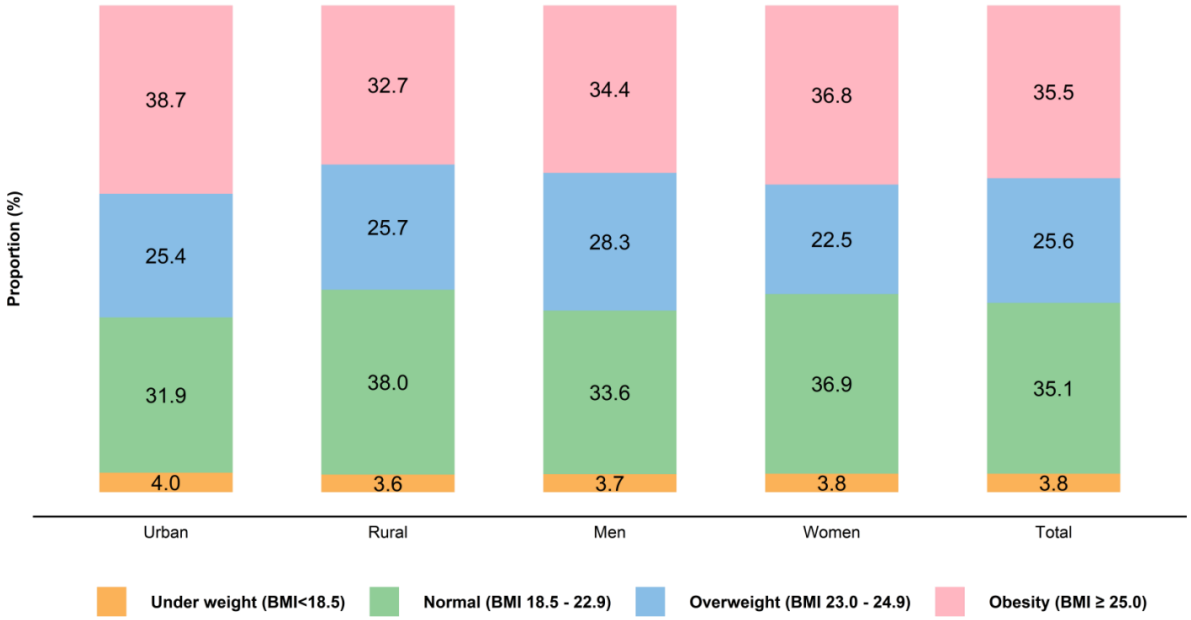
3.8 Physical Measurement

3.8.1-BMI categories based on WHO and Asian cut off by place of residence and gender (Percentage)

3.8.1 (a)- BMI categories (WHO cut off) by area of residence and gender (Percentage)



3.8.1 (b)- BMI categories (Asian cut off) by area of residence and gender (Percentage)



3. 8.2- Prevalence of Overweight (including obesity) and Obesity by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Overweight (BMI ≥25.0) *kg/m²*	38.7	32.7	34.4	36.8	35.5
Obese (BMI ≥30.0)	8.9	5.0	5.1	8.8	6.8

3.8.3-Central Obesity by age categories, place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
18- 44 Years	40.4	35.4	23.7	53.7	37.9
45 – 69 Years	58.1	39.4	27.2	71.3	46.9
70 years and above	60.7	45.4	32.4	66.0	51.0
18+ years	44.3	36.8	24.7	58.0	40.3

** A waist circumference of ≥90cm in males and ≥80cm in females (as per South Asia Pacific Guidelines)*

3.8.4- Received Advice to maintain healthy body weight by doctor or health worker in the last one year by age category, place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
18- 44 Years	5.3	1.2	2.7	3.8	3.2
45 – 69 Years	6.9	1.5	4.4	2.8	3.7
70 years and above	14.0	1.6	7.4	5.2	6.1
18+ years	5.8	1.3	3.3	3.6	3.4

3.9 Blood Glucose Measurement

3.9.1- Raised fasting blood glucose levels (mg/dl) by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Prevalence of raised blood glucose	4.3	0.9	2.9	2.0	2.5
Known	2.5	0.9	1.8	1.5	1.6
Newly detected	1.8	0.0	1.1	0.5	0.9

**Raised fasting blood glucose - ≥126 mg/dl including those on medication for diabetes*

3.9.2-Fasting blood glucose levels (mg/dl) among those measured by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
<100 mg/dl	85.9	92.8	88.8	90.5	89.6
100 – 109 mg/dl	7.9	5.4	6.8	6.3	6.6
110 – 125 mg/dl	3.0	1.3	2.4	1.7	2.1
≥126 mg/dl	3.2	0.5	2.0	1.5	1.7

3.10 Clustering of risk factors

3.10.1 Clustering of at least≥3 risk factors among adults by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
18- 44 Years	29.0	27.1	37.6	17.8	28.1
45 – 69 Years	46.1	35.6	41.6	37.7	39.9
70 years and above	48.4	38.3	34.1	48.4	42.0
18+ years	32.8	29.7	38.5	23.2	31.2

**Clustering of risk factors – Presence of ≥3 risk factors like daily tobacco use, inadequate fruits and/or vegetable consumption, insufficient physical activity, overweight(≥25.0 Kg/m^2), raised blood pressure and raised fasting blood glucose including those on medication.*

3.11 Health Seeking Behaviour and Management Indicators

3.11.1 Blood Pressure

3.11.1.1 - Measurement of blood pressure by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Never measured in life	29.9	29.4	35.2	23.5	29.6
Measured ever in life	70.1	70.6	64.8	76.5	70.4
Within past1year	61.4	62.5	57.2	67.1	61.9
> 1 year	8.8	8.2	7.6	9.4	8.4

3.11.1.2 - Awareness, advice on treatment, adherence to treatment and control of blood pressure among those with raised blood pressure by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Received advice for treatment	70.7	68.7	66.0	72.3	69.7
On treatment*	42.1	33.1	33.3	40.9	37.7
Adherence to treatment**	20.3	23.8	22.1	22.0	22.0
Blood pressure under control ***	21.1	20.1	23.8	18.2	20.6

** Taken medication for at least one day in the last two weeks*

***Among those on treatment, consistently took treatment as prescribed over the last two weeks*

****Among those who known to have raised blood pressure*

3.11.1.3 - Source of measurement and current treatment for raised blood pressure by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Source of measurement of blood pressure*					
Government screening camp/Health facility	53.2	61.0	58.6	56.2	57.4
Private/NGO screening camp/Health facility	46.8	39.0	41.4	43.8	42.6
Current source of consultation for raised blood pressure					
Allopathic doctor from Public sector	29.4	35.4	29.8	34.3	32.4
Allopathic doctor from Private/ NGO health facility	22.7	21.5	22.2	22.1	22.1

**Among those who got it measured in the last 1 year*

***3.11.1.4** - Received advice to check blood pressure by doctor/health worker in the last one year by age category, place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
18- 44 Years	63.7	61.5	57.4	68.1	62.6
45 – 69 Years	73.0	72.8	68.1	78.8	72.9
70 years and above	84.0	67.6	75.4	72.2	73.6
18+ years	66.0	64.6	60.4	70.6	65.2

3.11.2 Raised Blood Glucose

***3.11.2.1** - Measurement of blood glucose by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Never measured in life	56.7	58.8	62.7	52.4	57.8
Measured ever in life	43.3	41.2	37.3	47.6	42.2
Measured in the past					
Within 1year	37.7	33.7	31.1	40.5	35.6
> 1 year	5.6	7.5	6.1	7.2	6.6

***3.11.2.2** - Awareness, advice and on treatment, adherence to treatment and control of blood glucose among those with raised blood glucose by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Received advice for treatment	85.3	96.2	84.0	93.9	88.3
On treatment*	56.8	81.4	55.1	74.4	63.5
Adherence to treatment**	37.3	65.5	39.7	51.9	45.0
Blood glucose under control ***	44.2	47.0	52.3	35.5	45.0

** Taken medication for at least one day in the last two weeks*

***Among those on treatment, consistently took treatment over the last two weeks*

****Among those who are already aware that they have raised blood glucose, (Fasting Blood Glucose level≤126 mg/dl)*

3.11.2.3 - Source of measurement and current consultation for raised blood glucose by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Source of measurement of blood glucose*					
Government screening camp/Health facility	58.3	63.3	62.6	59.3	60.8
Private/NGO screening camp/Health facility	41.7	36.7	37.4	40.7	39.2
Current consultation for raised blood glucose					
Allopathic doctor from Public sector	28.7	15.4	18.9	33.0	25.1
Allopathic doctor from Private/ NGO health facility	37.0	67.9	44.7	46.3	45.4

**Among those who got it measured in the last 1 year*

***3.11.2.4** - Advised to check blood glucose by doctor/health worker in the last one year by age category, place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
18- 44 Years	39.9	38.6	35.4	43.3	39.2
45 – 69 Years	59.0	45.1	47.4	54.8	50.7
70 years and above	67.1	51.4	54.0	59.6	57.1
18+ years	44.3	40.7	38.8	46.3	42.4

3.12 Cancer Screening

***3.12.1** - Level of awareness and source of information about cancer screening by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Awareness levels by age groups					
18- 29 Years	30.1	31.0	28.8	31.9	30.5
30 – 49 Years	32.6	23.7	27.1	29.0	28.0
50- 69 Years	41.8	27.7	36.2	29.2	33.1
70 years and above	41.3	6.5	18.6	19.9	19.3
18+ years	33.4	25.3	28.7	29.5	29.1
Source of information*					
TV/Newspaper/social media	88.1	93.7	92.2	89.1	90.7
Friends/family	88.4	94.2	90.6	91.5	91.1
Health worker	57.3	43.4	50.5	51.4	50.9
Health awareness camps	8.6	2.4	5.7	5.8	5.7

**Among those who are aware of cancer screening.*

3.12.2 - Adults who had ever undergone oral/breast/cervical cancer screening by place of residence (Percentage)

	Urban	Rural	Total
Cervical cancer	0.2	0.0	0.1
Breast cancer*	0.5	0.0	0.2
Oral cancer	0.3	0.03	0.1

**Among women more than 30 years of age*

3.12.3 - Methods of breast cancer screening by place of residence (Percentage)

Screening for breast cancer	Urban	Rural	Total
Forms of screening*			
Only clinical breast examination by doctor / health care professional	63.5	0.0	63.5
Only Ultrasound of breast or mammogram	63.5	0.0	63.5
Performed breast self-examination	63.5	0.0	63.5

**Among those who reported to have undergone breast cancer screening ever in life.*

***3.12.4** - Received advice to screen for cancer by doctor/health worker in the last one year by place of residence and gender (Percentage)*

	Urban	Rural	Men	Women	Total
Oral Cancer	0.6	0.1	0.2	0.6	0.4
Breast Cancer*	0.7	0.0	0.0	0.3	0.3
Cervical Cancer*	0.5	0.0	0.0	0.2	0.2

***Among women respondents*

C. Health Facility Assessment

3.13 Public Primary Health Care Centres*

3.13.1 - Infrastructure and type of available services

	Urban (n=5)	Rural (n =4)	Total(N=9)
Types of services			
Outpatient services	5 (100.0)	4 (100.0)	9 (100.0)
In patient services	1 (20.0)	2 (50.0)	3 (33.3)
Emergency services	4 (80.0)	4 (100.0)	8 (88.9)
Availability of functional telephone facility	3 (60.0)	0 (0.0)	3 (33.3)
Availability of ambulance facility[1]	2 (40.0)	2 (50.0)	4 (44.4)
Electricity and functional electricity back up	4 (80.0)	2 (50.0)	6 (66.7)

** First point of contact with a qualified doctor in the public sector, providing preventive, promotive and curative health care.*

[1]Includes ambulance owned by health center, centralised ambulance services, outsourced and hired as and when required

3.13.2 - Availability of cancer related services

	Urban(n=5)	Rural(n=4)	Total(N=9)
Written standard treatment guidelines under NPCDCS availability	2 (40.0)	1 (25.0)	3 (33.3)
Cancer screening availability			
Oral Cancer	2 (40.0)	0 (0.0)	2 (22.2)
Cervical Cancer	1 (20)	0 (0.0)	1 (11.1)
Breast Cancer	2 (40.0)	0 (0.0)	2 (22.2)
All three cancers	1 (20.0)	0 (0.0)	1 (11.1)
Method of screening cancer			
Organized Screening*	0 (0.0)	0 (0.0)	0 (0.0)
Opportunistic screening**	2 (40.0)	0 (0.0)	2 (22.2)
Place of referral of patients found positive after screening			
CHC	0 (0.0)	0 (0.0)	0 (0.0)
DH	2 (40.0)	0 (0.0)	2 (22.2)
Tertiary Care Hospital	0 (0.0)	0 (0.0)	0 (0.0)
Private Health facility	0 (0.0)	0 (0.0)	0 (0.0)
Availability of Physiotherapy facility	0 (0.0)	0 (0.0)	0 (0.0)

** Systematic screening of all persons in a defined target group*

***A person's participation results from a referral made by a healthcare provider or based on their own choice.*

3.13.3 - Counselling facilities for risk behavior

	Urban (n=5)		Rural (n=4)		Total (N=9)	
	In house	**In Vicinity**	**In house**	**In Vicinity**	**In house**	**In Vicinity**
Availability of Counselling facilities for risk behavior through counsellor or specialised personnel*						
Tobacco cessation	0 (0.0)	2 (40.0)	0 (0.0)	1 (25.0)	0 (0.0)	3 (33.3)
Dietary Modification	0 (0.0)	2 (40.0)	0 (0.0)	1 (25.0)	0 (0.0)	3 (33.3)
Physical Activity	0 (0.0)	2 (40.0)	0 (0.0)	1 (25.0)	0 (0.0)	3 (33.3)
Alcohol Cessation	0 (0.0)	2 (40.0)	0 (0.0)	1 (25.0)	0 (0.0)	3 (33.3)

**Available in-house and in vicinity (within 5 km)*

3.13.4 - Availability of Information, Education and Communication (IEC) material on cancer

	Urban (n=5)	**Rural (n=4)**	**Total (N=9)**
IEC materials related to Cancer displayed/available in the patient waiting room / outpatient department			
Posters	5 (100.0)	2 (50.0)	7 (77.8)
Videos	0 (0.0)	0 (0.0)	0 (0.0)
Pamphlets	2 (40.0)	1 (25.0)	3 (33.3)
Booklets	1 (20.0)	1 (25.0)	2 (22.2)

3.13.5 Availability of Human Resources

Staff	Urban (n=5)		Rural (n=4)		Total (N=9)	
	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program
Medical Officer (MBBS)	5 (100.0)	3 (60.0)	3 (75.0)	0 (0.0)	8 (88.9)	3 (33.3)
AYUSH Medical Officer	1 (20.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (11.1)	0 (0.0)
Staff Nurse	5 (100.0)	4 (80.0)	4 (100.0)	0 (0.0)	9 (100.0)	4 (44.4)
Auxiliary Nurse Midwife (ANM)	5 (100.0)	4 (80.0)	4 (100.0)	1 (25.0)	9 (100.0)	5 (55.6)
Lady Health Visitor/ Female Health Assistant/PHN	1 (20.0)	0 (0.0)	3 (75.0)	0 (0.0)	4 (44.4)	0 (0.0)
Male Health Assistant	3 (60.0)	0 (0.0)	1 (25.0)	0 (0.0)	4 (44.4)	0 (0.0)
Accountant cum data entry operator	4 (80.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (44.4)	0 (0.0)
Pharmacist	5 (100.0)	0 (0.0)	4 (100.0)	0 (0.0)	9 (100.0)	0 (0.0)
Lab Technician	5 (100.0)	0 (0.0)	3 (75.0)	0 (0.0)	8 (88.9)	0 (0.0)
Health educator	3 (60.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (33.3)	0 (0.0)
Cold Chain & Vaccine Logistic Assistant	2 (40.0)	0 (0.0)	1 (25.0)	0 (0.0)	3 (33.3)	0 (0.0)

3.13.6 Availability of Laboratory procedures and equipment & supplies

	Urban (n=5)	Rural (n=4)	Total (N=9)
Availability of Laboratory [1]			
Routine investigations[2]	5 (100.0)	4 (100.0)	9 (100.0)
Cancer screening[3]	0 (0.0)	0 (0.0)	0 (0.0)
Equipment & supplies available in stock			
General[4]	5 (100.0)	4 (100.0)	9 (100.0)
Cancer screening[5]	4 (80.0)	1 (25.0)	5 (55.6)

1. *Includes generally available in house, free of cost; generally available in house, on payment; and outsourced, but paid for by the program*
2. *Includes blood glucose, urine routine, haemoglobin and total leucocyte count*
3. *For cervical cancer screening: Visual Inspection with Acetic Acid(VIA)*
4. *Includes availability of at least one of each adult weighing scale, Stadiometer/Wall markings for height, Measuring tape, Stethoscope, B.P Apparatus and Glucometer*
5. *Includes availability of both Vaginal Speculum (Cusco's and Sims) and Torch / Examination light*

3.14 Public Secondary Health Care Facilities

3.14.1 - Infrastructure and available services

	CHC(n=8)	DH(n=2)
Location		
Rural	6 (75.0)	0 (0.0)
Urban	2 (25.0)	2 (100.0)
Types of services		
Outpatient services	8 (100.0)	2 (100.0)
Inpatient services	5 (62.5)	2 (100.0)
Emergency services	7 (87.5)	2 (100.0)
Intensive Care Unit(ICU)or Cardiac Care Unit	1 (12.5)	1 (50.0)
Availability of functional Telephone facility	5 (62.5)	2 (100.0)
Availability of ambulance facility[1]	7 (87.5)	1 (50.0)
Electricity and Functional electricity backup	7 (87.5)	2 (100.0)

[1]*Includes ambulance owned by health center, centralised ambulance services, outsourced and hired as and when required*

3.14.2 -Availability of Cancer related services

	CHC(n=8)	DH(n=2)
Written standard treatment guidelines under NPCDCS availability	0 (0.0)	0 (0.0)
Cancer screening availability		
Oral Cancer	0 (0.0)	1 (50.0)
Cervical Cancer	0 (0.0)	1 (50.0)
Breast Cancer	0 (0.0)	1 (50.0)
All three cancers	0 (0.0)	1 (50.0)
Method of detecting cancer		
Organized Screening	0 (0.0)	0 (0.0)
Opportunistic screening	0 (0.0)	1 (50.0)
Management of patients with Cancer		

Fixed days/day in a week	0 (0.0)	0 (0.0)
Seen daily, no dedicated day	0 (0.0)	1(50.0)
All are referred/Not managed	0 (0.0)	0 (0.0)
Availability of Day care facility for management of cancer patients (for Chemotherapy)	0 (0.0)	1(50.0)

3.14.3 -Availability of counselling facilities for risk behavior and Cancer related IEC materials

	CHC(n=8)	DH(n=2)
Availability of Counseling facilities for risk behavior through counselor or specialized personnel*		
Tobacco cessation	3 (37.5)	1 (50.0)
Dietary Modification	3 (37.5)	0 (0.0)
Physical Activity	3 (37.5)	1 (50.0)
Alcohol Cessation	3 (37.5)	1 (50.0)
IEC materials related to Cancer displayed/available in the patient waiting room/outpatient department		
Posters	2 (25.0)	2 (100.0)
Videos	0 (0.0)	0 (0.0)
Pamphlets	3 (37.5)	1 (50.0)
Booklets	1 (12.5)	0 (0.0)
Others	0(0.0)	0(0.0)

**Available in-house and in vicinity (within 5 km)*

***3.14.4** - Availability of Human Resources (Medical Staff)*

	CHC(n=8)		DH(n=2)	
	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program
Medicine	4 (50.0)	2 (25.0)	2 (100.0)	1 (50.0)
Surgery	3 (37.5)	1 (12.5)	2 (100.0)	0 (0.0)
Gynecology	0 (0.0)	1 (12.5)	2 (100.0)	0 (0.0)
Radiology	2 (25.0)	0 (0.0)	1 (50.0)	1 (50.0)
Pathology	4 (50.0)	0 (0.0)	2 (100.0)	0 (0.0)
General duty Medical Officer	8 (100.0)	4 (50.0)	2 (100.0)	0 (0.0)
AYUSH	6 (75.0)	0 (0.0)	2 (100.0)	0 (0.0)
Pediatrics	1 (12.5)	0 (0.0)	2 (100.0)	1 (50.0)

3.14.5 - Availability of Human Resources (paramedical / other Staff)

	CHC(n=8)		DH(n=2)	
	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NHM(NCD related)/State program
Staff Nurse	8 (100.0)	3 (37.5)	2 (100.0)	2 (100.0)
Pharmacist	8 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)
Lab Technician	8 (100.0)	0 (0.0)	2 (100.0)	0 (0.0)
Physiotherapist	1 (12.5)	0 (0.0)	2 (100.0)	0 (0.0)
Radiographer	3 (37.5)	0 (0.0)	2 (100.0)	0 (0.0)
O.T technician	1 (12.5)	0 (0.0)	1 (50.0)	0 (0.0)
Social worker	0 (0.0)	0 (0.0)	1 (50.0)	0 (0.0)
Data Entry Operator	3 (37.5)	0 (0.0)	2 (100.0)	1 (50.0)
Rehabilitation therapist	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Counselor	6 (75.0)	0 (0.0)	2 (100.0)	1 (50.0)
Others	3 (37.5)	1 (12.5)	1 (50.0)	0 (0.0)

3.14.6 - Availability of prevention/treatment procedures

	CHC(n=8)	DH(n=2)
HPV Vaccination	0 (0.0)	0 (0.0)
General surgical procedures	4 (50.0)	2 (100.0)
Laparoscopic procedures	1 (12.5)	2 (100.0)
Radiotherapy	0 (0.0)	0(0.0)
Palliative care	0 (0.0)	2 (100.0)

3.14.7- Availability of prevention/treatment procedures, laboratory and Equipment & supplies in Public Secondary Health Care facilities (Percentage)

	CHC(n=8)	DH(n=2)
Laboratory and other investigations[1]		
Routine blood investigations[2]	8 (100.0)	2 (100.0)
Biochemistry[3]	8 (100.0)	2 (100.0)
Cardiac investigations[4]	1 (12.5)	2 (100.0)
Radiology[5]	5 (62.5)	2 (100.0)
Endoscopy[6]	0 (0.0)	1 (50.0)
Histopathology	0 (0.0)	1 (50.0)

Cervical cancer screening[7]	0 (0.0)	1 (50.0)
Available equipment in stock		
Essential[8]	5 (62.5)	1 (50.0)
Imaging [9]	0 (0.0)	1 (50.0)
Cardio pulmonary[10]	0 (0.0)	0 (0.0)
Dental[11]	6 (75.0)	1 (50.0)
Laboratory[12]	0 (0.0)	2 (100.0)
Cancer screening[13]	0 (0.0)	0 (0.0)

1. *Includes Generally available in house, free of cost; Generally available in house, on payment; and Outsourced, but paid for by the program*
2. *Includes Haemoglobin, Total Leucocyte count*
3. *Includes blood glucose, Kidney function test and Liver function test*
4. *Includes ECG*
5. *Includes X ray, Low frequency USG, High frequency USG, Mammography and CT Scan/MRI*
6. *Includes Endoscopy and Colposcopy*
7. *Includes Visual Inspection with Acetic acid (VIA)*
8. *Includes atleast one of each adult weighing scale, Stadiometer/Wall markings for height, Measuring tape, Stethoscope and B.P Apparatus*
9. *Includes X ray Machine, Ultrasound machine and C.T scan Machine*
10. *Includes Nebulizer, infusion set, Oxygen mask, Oxygen cylinder, Pulse Oximeter, Laryngoscope, Adult ambu bag, Cardiac monitor, Defibrillator, ECG Machine, ECG roll, 12 Channel stress ECG Tread Mill.*
11. *Includes Dental mirror and Dental chair.*
12. *Includes at least one of each Centrifuge, Glucometer, Haemoglobin meter, Biochemical analyser, Lancets, Glucostrips, Urine strips, Microscope and Reagents/ kits for Glucose test*
13. *Includes Vaginal speculum (Cusco's and sims), Cotton tipped swabs, Punch biopsy forceps, Colposcope, Laryngoscope and Torch / Examination light.*

3.15 Private Secondary Health Care Facility

3.15.1 - Infrastructure and available services

	Urban (n=13)	Rural (n=3)	Total (n=16)
Types of services			
Outpatient services	13 (100.0)	3 (100.0)	16 (100.0)
In patient services	13 (100.0)	3 (100.0)	16 (100.0)
Emergency services	11 (84.6)	3 (100.0)	14 (87.5)

Intensive Care Unit	6 (46.2)	3 (100.0)	9 (56.3)
Cancer screening availability			
Oral Cancer	4 (30.8)	3 (100.0)	7 (43.8)
Cervical Cancer	5 (38.5)	3 (100.0)	8 (50)
Breast Cancer	4 (30.8)	3 (100.0)	7 (43.8)
Other Cancers	0 (0.0)	0 (0.0)	0 (0.0)
Method of detecting cancer			
Organized Screening	1 (7.7)	0 (0.0)	1 (6.3)
Opportunistic screening	4 (30.8)	2 (66.7)	6 (37.5)
Treatment provided for Cancer	6 (46.2)	2 (66.7)	8 (50.0)
Availability of standard treatment guidelines for cancer	7 (53.8)	2 (66.7)	9 (56.3)

3.15.2 - Counselling facilities for risk behavior and Cancer related IEC materials availability

	Urban (n=13)	Rural (n=3)	Total (n=16)
Availability of Counselling facilities for risk behavior through counsellor or specialised personnel*			
Tobacco cessation	7 (53.8)	3 (100.0)	10 (62.5)
Dietary Modification	7 (53.8)	2 (66.7)	9 (56.3)
Physical Activity	6 (46.2)	2 (66.7)	8 (50.0)
Alcohol Cessation	6 (46.2)	3 (100.0)	9 (56.3)

**Available in-house and in vicinity (within 5 km)*

3.15.3 - IEC materials related to Cancer displayed/available in the patient waiting room/outpatient department

	Urban (n=13)	Rural (n=3)	Total (n=16)
Posters	4 (30.8)	1 (33.3)	5 (31.3)
Videos	1 (7.7)	1 (33.3)	2 (12.5)
Pamphlets	4 (30.8)	2 (66.7)	6 (37.5)
Booklets	3 (23.1)	1 (33.3)	4 (25)

3.15.4 - Availability of Human Resources

Staff	Urban (n=13)	Rural (n=3)	Total (n=16)
Medical Officer (MBBS and above)	13 (100.0)	3 (100.0)	16 (100.0)
Specialist*	7 (53.8)	2 (66.7)	9 (56.3)
Staff Nurse	13 (100.0)	3 (100.0)	16 (100.0)

Lab Technician	13 (100.0)	3 (100.0)	16 (100.0)
Radiographer	11 (84.6)	3 (100.0)	14 (87.5)
Medical imaging and therapeutic equipment technicians	6 (46.2)	1 (33.3)	7 (43.8)
Radiation therapy technologist	2 (15.4)	1 (33.3)	3 (18.8)
Counselor/ dietician/ educator/ care coordinator	4 (30.8)	1 (33.3)	5 (31.3)
Others	2 (15.4)	0 (0.0)	2 (12.5)

**Includes Physician/Surgeon/ Oncosurgeon/ /Medical oncologist/ Haematologist/ /Radiologist/ Nuclear medicine/ Medical physicist/ Radiation Oncologist/Palliative care Physician*

3.15.5 - Availability of prevention / treatment procedures

	Urban (n=13)	Rural (n=3)	Total (n=16)
HPV Vaccination	6 (46.2)	1 (33.3)	7 (43.8)
General surgical procedures	11 (84.6)	3 (100.0)	14 (87.5)
Laparoscopic procedures	11 (84.6)	3 (100.0)	14 (87.5)
Radiotherapy	2 (15.4)	0 (0.0)	2 (15.4)
Chemotherapy	6 (46.2)	3 (100.0)	9 (56.3)
Palliative care	7 (53.8)	3 (100.0)	10 (62.5)

3.15.6 - Availability of prevention/treatment procedures, laboratory and Equipment & supplies

	Urban (n=13)	Rural (n=3)	Total (n=16)
Laboratory and other investigations[1]			
Routine blood investigations[2]	13 (100.0)	3 (100.0)	16 (100.0)
General pathology[3]	6 (46.2)	2 (66.7)	8 (50)
Biochemistry[4]	13 (100.0)	3 (100.0)	16 (100.0)
Cardiac investigations[5]	12 (92.3)	3 (100.0)	15 (93.8)
Radiology[6]	12 (92.3)	3 (100.0)	15 (93.8)
Nuclear Imaging[7]	0 (0.0)	0 (0.0)	0 (0.0)
Endoscopy[8]	9 (69.2)	2 (66.7)	11 (68.8)
Cancer	2 (15.4)	1 (33.3)	3 (18.8)
Available Technology			
Essential[9]	10 (76.9)	2 (66.7)	12 (75)
Imaging [10]	5 (38.5)	3 (100.0)	8 (50)
Cardiopulmonary[11]	0 (0.0)	0 (0.0)	0 (0.0)
Dental[12]	2 (15.4)	2 (66.7)	4 (25)
Laboratory[13]	6 (46.2)	1 (33.3)	7 (43.8)

1. *Includes Generally available in house, free of cost; Generally available in house, on payment; and Outsourced, but paid for by the program*
2. *Includes Haemoglobin and Total Leucocyte count ,*
3. *Includes histopathology, cytopathology, immunohistochemistry, histochemical stains*
4. *Includes blood glucose, blood chemistry – alkaline, phosphatase, calcium Kidney function test, Liver function test, Serum protein electrophoresis, Immunoassay test, Tumor lysis syndrome panel- LDH. Uric acid, potassium, Calcium, phosphate*
5. *Includes ECG and Echo*
6. *Includes X ray, Low frequency USG, High frequency USG, Mammography and CT Scan/MRI*
7. *Includes Nuclear scan and PET Scan*
8. *Includes Endoscopy and Colposcopy*
9. *Includes at least one of each adult weighing scale, Stadiometer/Wall markings for height, Measuring tape, Stethoscope and B.P Apparatus*
10. *Includes X ray Machine, Ultrasound machine and C.T scan Machine*
11. *Includes ECG Machine, ECG roll, 12 Channel stress ECG Tread Mill, Diagnostic spirometer, Nebulizer, infusion set, Oxygen mask, Oxygen cylinder, Pulse Oximeter, Laryngoscope, Adult ambu bag, Cardiac monitor and Defibrillator.*
12. *Includes dental Mirror and Dental Chair.*
13. *Includes atleast one of each Centrifuge, Glucometer, Haemoglobin meter, Biochemical analyser, Lancets, Glucostrips, Urine strips, Microscope and Reagents/ kits for Glucose testing*

D. Profile of adults with cancer

3.16.1 - Number of cancer patients by place of residence and gender

	Urban	Rural	Male	Female	Combined
Number of cancer patients	14	14	18	10	28

***3.16.2** - Age at diagnosis and duration of cancer among cancer patients by place of residence and gender (Mean)*

	Urban (14)	Rural (14)	Male (18)	Female (10)	Combined (28)
Age at diagnosis	49.7	52.1	49.3	53.8	50.9
Duration of cancer *	45.7	61.1	60.7	40.2	53.4

*months

***3.16.3** - Site of cancer and other chronic illness among cancer patients by place of residence and gender (Percentage)*

	Urban (14)	Rural (14)	Male (18)	Female (10)	Combined (28)
Site of Cancer					
Oesophagus	0 (0.0)	1 (7.1)	1 (5.6)	0 (0.0)	1 (3.6)
Lung	2 (14.3)	0 (0.0)	2 (11.1)	0 (0.0)	2 (7.1)
Stomach	2 (14.3)	1 (7.1)	2 (11.1)	1 (10.0)	3 (10.7)
Throat	1 (7.1)	3 (21.4)	4 (22.2)	0 (0.0)	4 (14.3)
Mouth	1 (7.1)	3 (21.4)	4 (22.2)	0 (0.0)	4 (14.3)

Cervix	1 (7.1)	1 (7.1)	0 (0.0)	2 (20.0)	2 (7.1)
Gall bladder	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Breast	2 (14.3)	2 (14.3)	1 (5.6)	3 (30.0)	4 (14.3)
Diagnosed with co-morbidity					
Type of comorbidity					
Tuberculosis	1 (7.1)	0 (0.0)	1 (5.6)	0 (0.0)	1 (3.6)
Kidney failure	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Diabetes Mellitus	2 (14.3)	1 (7.1)	2 (11.1)	1 (10)	3 (10.7)
Heart Failure	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Stroke	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	1 (7.1)	1 (7.1)	1 (5.6)	1 (10)	2 (7.1)

3.16.4 *- Type of health facility or health care provider from where cancer care was taken among those who sought treatment by place of residence and gender* **(***Percentage***)**

	Urban (14)	Rural (14)	Male (18)	Female (10)	Combined (28)
Type of health facility / health care provider					
Within the state	8 (57.1)	4 (28.6)	7 (38.9)	5 (50.0)	12 (42.9)
Outside the state*	6 (42.9)	10 (71.4)	11 (61.1)	5 (50.0)	16 (57.1)
Govt facility	4 (28.6)	4 (28.6)	5 (27.8)	3 (30.0)	8 (28.6)
Private facility**	10 (71.4)	11 (78.6)	15 (83.3)	6 (60.0)	21 (75.0)
Self-healers	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Alternative form of medicine (AYUSH)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	1 (7.1)	0 (0.0)	0 (0.0)	1 (10)	1 (3.6)

**Outside the state includes Other states within NER and Outside NER*

***Private facility includes within the state, Other states within NER and Outside NER*

3.16.5 *- Source of finances for cancer treatment among cancer patients by place of residence and gender* **(***Percentage***)**

	Urban (14)	Rural (14)	Male (18)	Female (10)	Combined (28)
Self-Financing / Taking loan/Sale of assets	7(50.0)	10(71.4)	12(66.7)	5(50.0)	17(60.7)
Family support	7(50.0)	9(64.3)	12(66.7)	4(40.0)	16(57.1)
Health Insurance Schemes/Hospital Incentives	2(14.3)	1(7.1)	3(16.7)	0(0.0)	3(10.7)

Key Findings

I. Behavioural risk factors

Tobacco use

- The prevalence of current tobacco use (smoked or smokeless) was 39.3%. The prevalence of smokeless tobacco use (35%) was higher than smoked tobacco use (13.2%).
- More than quarter (30%) of current tobacco users (smoked or smokeless) were daily users.
- The mean age at initiation of use was 20.3 years.
- The average duration of tobacco use among past smokers was 8.7 years.
- More than one-tenth (13.8%) of the smoked tobacco users had made self-attempts to quit smoking, while only 3.2% had been advised to quit tobacco use by doctor/health worker.

Exposure to second hand smoke

- Over half of the respondents (67.9%) reported exposure to second hand tobacco smoke in the past 30 days, either at home, during travel or at the work place.

Non tobacco betel products

A. As many as 28.4% of the respondents were current users of non-tobacco betel products in the form of pan masala, betel quid or areca nut. The use of areca nut (16.0%) was highest among current users.

Alcohol use

- Around 18.8% of the respondents had consumed alcohol over the past 12 months, while 13.1% had consumed alcohol over the past 30 days.
- The mean age of initiation of alcohol use was 21.0 years.
- Among those who consumed alcohol in the past 12 months, 2.5% were daily users and 0.5% felt the need for a drink first thing in the morning every day.
- 6.1% of the respondents engaged in heavy episodic drinking
- Only 2.4% of the respondents had been advised to quit alcohol use by doctor/health worker

Diet

- The average number of days of fruit intake was 2.5 per week
- The average number of servings of fruits and vegetables was 2.2 per day.
- 2.2% of the respondents consumed red meat and 85.1% of the respondents consumed preserved/salt curated and fermented products.
- Over 91% of surveyed adults reported to be having sufficient level of physical activity.

II. Raised blood pressure

- Prevalence of raised blood pressure was reported to be 37.8% in males and 30.1% in females. It was found to be slightly higher in adults from urban than in rural region
- Over half of the respondents (54.7%) were pre-hypertensive.

III. Overweight/Obesity

- According to WHO cut off values, 28.7% of the respondents were overweight, while 6.8% were obese.
- The prevalence of obesity was higher in females (8.8%) than males (5.1%).
- Close to 40% of the respondents had central obesity

IV. Raised blood glucose

- The prevalence of raised fasting blood glucose was 2.5%.

V. Clustering of risk factors

- Over one fourth (31.2%) of respondents had a clustering of > 3 risk factors

VI. Health seeking behavior

- More than one-fourth (29.6%) of respondents had never had their blood pressure ever measured in life.
- Among those with raised blood pressure, only 20.6% had their blood pressure under control.
- Likewise, 42.2% of the respondents had ever had their blood glucose measured in life.
- Of those with raised blood glucose 45% had it under control.

VII. Cancer screening

- 29.1% of the respondents were aware of cancer screening for the three common cancers: Oral, breast and cervical cancer.

VIII. Health system response

- Over a quarter of the PHCs' had availability of counselling facilities for risk behavior through counsellor or specialised personnel
- 33.3% of the Medical Officers positioned at the PHCs' had been trained for NPCDCS/NHM (NCD related)/State program.
- None of the CHCs' provided cancer screening services while over a quarter of the DHs provided screening facilities for all the three common cancers.
- Availability of Gynecologists was around 14.3% in CHCs and 33.3% in District Hospitals.
- General duty Medical officers were available in all the CHCs and DHs.
- Nearly 50% of the private secondary health facilities that were surveyed provided cancer screening, and cancer treatment facilities.
- HPV vaccination was provided by 43.8% of the private health facilities.

Recommendations

This report gives a detailed information about the current situation of Nagaland's health system in depth. This survey contributes to the need for increased cancer awareness and the improvement of the healthcare system to provide treatment. As a result, the recommendations can be classified as follows:

- According to the survey, tobacco use was prevalent in roughly 39.3% of the population with an average age of initiation of 20.3 years. With over half of the respondents having the addiction, preventive steps should be implemented as soon as possible to reduce the disease's burden . The average age at which people started drinking alcohol was 21.0 years, which indirectly points to the prolonged duration of alcohol exposure.

  This emphasises the importance of a risk-reduction strategy that focuses on prevention in the younger population through awareness camps, events among school, college students, and young adults, this might be turned into a more targeted strategy. Student-centered counselling services must be made available to provide assistance during the early stages of maturity.
- In urban regions, the prevalence of high blood pressure was observed to be higher. It is suggested that all adults over the age of 18 must undergo opportunistic screening by healthcare practitioners at all points of care in India, either as part of their regular visits to health facilities or as a separate screening examination if the person requests it. Non-physician staff could conduct targeted community screenings of high-risk populations such as the elderly (>60 years), obese, current smokers, those with diabetes, those with existing cardiovascular disease, and those with a significant family history of heart disease or stroke.
- Increasing Fruit and vegetable consumption in the diet, Lifestylechanges including reduction of salt intake, stopping tobacco use, reduction in consumption of fermented & smoked food items, reduction of body weight in those who are obese, adopting a healthy diet, and increasing physical activity levels must be explained at the grassroot level in order for the community to voluntarily absorb such habits for a positive consequence.
- It has been observed that there is a lack of awareness on health insurance schemes among the public. Therefore, creating awareness on the availability of health care schemes among patients, NGOs, SHGs and also through public domains such as TV, radio, newspapers and other social media.
- Chemotherapy drugs may be made available free of cost or at a subsidised rate, at least for the common cancers (breast, cervix, head & neck and stomach). This will help the socially disadvantaged individuals as most of the chemotherapy and radiation therapy are paid solely by the patients and caregivers.

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Photographs of the Survey