

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

2022



**ARUNACHAL
PRADESH**

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MESSAGE

It gives me immense pleasure to note that the National Centre for Disease Informatics and Research, Bengaluru is bringing out a report on the 'Monitoring Survey of Cancer Risk Factors and Health System Response' in Arunachal Pradesh conducted during the period December'2019 to December'2020.

The Project was carried out under the aegis of CaRes NER – a multidisciplinary Research Programme for Prevention and Control of Cancer in the North Eastern States of India, which aims to address the growing burden of cancer and strengthen the existing health system.

I would like to heartily congratulate Principal Investigators and their entire team of field officers/workers for successfully completing the herculean task of carrying out the field survey in 15 districts of Western Arunachal Pradesh and 3 districts of Eastern Arunachal Pradesh despite the challenges posed by the harsh terrain and communication disruptions due to inclement monsoon weather. The fact that the work was completed amid the ongoing COVID-19 pandemic is a testimony to the coordinated efforts of the team.

The State Government is sensitive to the growing burden of cancer and places high priority on addressing the cancer risk factors through appropriate intervention measures as well as filling the gaps in health infrastructure and capacity building. The Government is also taking steps to meet the felt need of upgrading secondary and tertiary health care facilities in the State for timely and early detection of cancer cases.

I am sure that this report would be disseminated widely to all stakeholders and will come in handy in for planning targeted interventions and the ever continuing strengthening of health infrastructure in the State of Arunachal Pradesh.

(Dr. Sharat Chauhan)

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MESSAGE



According to the Report of National Cancer Registry programme, 2020 Papum Pare District of Arunachal Pradesh has the highest risk of developing cancer of any site in 0-74 age at an alarming ratio of 1 in 4. However, the risk factors of such high incidence cancers of Gastrointestinal, Respiratory Tract and even of Thyroid remained enigmatic or conjectural at best. This report on Cancer Risk factors and Health System Response in Arunachal Pradesh brought out by National Centre for Disease Informatics and research (ICMR) will be an eye opener.

I am happy to state that Tomo Riba Institute of Health & Medical Sciences (TRIHMS), Medical College & Hospital is committed to play a major role in cancer and any other disease related Research and Interventions. This report on Cancer Risk factors and Health System Response in Arunachal Pradesh will be a giant leap in this direction.


(Dr. Moji Jini)



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 Arunachal Pradesh. 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 Arunachal Pradesh, implemented through PBCRs Naharlagun and Pasighat situated at Tomo Riba Institute of Health & Medical Sciences, Naharlagun and Bakin Pertin General Hospital, Pasighat respectively.

I sincerely appreciate the efforts of the Principal Investigators and Co-Principal Investigators of these study sites 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

ACKNOWLEDGEMENT

Arunachal Pradesh was the first to start and complete the project “Monitoring Survey of Cancer Risk Factors and Health System Response” under the aegis of National Centre for Disease Informatics and Research, Bangalore from 1st Decmber’2019 to 31st December’2020. The field survey for the project was carried out in 15 districts of Western Arunachal and 3 districts of Eastern Arunachal. Team of Field officers/workers has successfully completed the field survey despite challenges of harsh terrain, communication bottlenecks and disruption due to inclement monsoon weather. Due COVID-19 pandemic coming on its way during the survey work had led the team facing untold problems due to administrative and social restrictions. In spite of all those problems our team had bravely performed the work and completed the project within stipulated time.

First and foremost, I would like to thank the team led by Dr. Mepung Liyak, Scientist B for doing the commendable work despite several challenges. I also would like to thank Principal Investigator of Cancer Registry, Pasighat Dr. Kaling Jerang and Co-PIs Dr. Anoop Deb and Dr. Aza Miyu for their valuable supervision and guidance throughout the project.

I heartily acknowledge my sincere gratitude to Dr. Prashant Mathur, Director, ICMR - NCDIR for sanctioning fund for the project and for constantly guiding us throughout the project period. My sincere thanks also go to Dr. Anita Nath, Scientist E, Coordinator of the project and her team for their constant guidance and support.

I would like to extend my gratitude to Director, TRIHMS, Director of Health Services and Chief Medical Superintendent, TRIHMS Hospital for their support and encouragement. My sincere thanks also go to District Medical Officers of districts and administrative Officers of the districts and local health workers for their cooperation in successful completion of the project.

Lastly I would like to express my sincere thanks to Sahara Tours and Travels for providing trouble free conveyances for movement of our teams.



(Dr. Sopai Tawsik)
Principal Investigator

West Arunachal Population Based Cancer Registry

List of Abbreviations

BMI	Body Mass Index
BP	Blood pressure
CCA	Central Coordinating Agency
CEBs	Census Enumeration Blocks
CHCs	Community Health Centres
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	Noncommunicable 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	STEPwise approach to surveillance
SARA	Service Availability and Readiness Assessment
WC	Waist Circumference

Executive Summary

The incidence, mortality, and cumulative risk of developing cancer have been consistently high in the Northeastern Region (NER) of India, according to reports from 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 behavioural 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 implementing a baseline monitoring system to drive us to understand 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 to make the best decisions to address cancer prevention and control in the State.

The survey objectives included:

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

Secondary objectives:

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

Key Findings

- The proportion of solid fuel use was high in rural areas (79.1%). More than two third (76.6%) of the rural population used wood as cooking fuel. Nearly 60% of the rural population used 'open stove' or 'chulha' for cooking.
- The prevalence of current tobacco use (smoked or smokeless) was 36.1%. The prevalence of smokeless tobacco use (24%) was higher than smoked tobacco use (19.1%).
- Over one third of the respondents (36.7%) had consumed alcohol over the past 12 months, while over a quarter (27.4%) had consumed alcohol over the past month.
- The average number of servings of fruits and vegetables was 2.3 per day.
- According to WHO criteria, 15.6% of the respondents were overweight, while 2.9 % were obese.
- Prevalence of raised blood pressure was reported to be 31.8% in males and 21.8% in females. It was found to be slightly higher in adults from rural than in urban region.
- The prevalence of raised fasting blood glucose was 2.2%.
- Nearly 60% of the cancer patients had sought health care outside of their state, the majority (80%) were availing of treatment at a government health facility.
- More than half (60%) of the cancer patients were self-financing their treatment; 40% were covered by health insurance.

- Less than 6% of the surveyed PHCs provided cancer screening services and over 80% of the PHCs reported to shortage of lab facilities for cancer detection.
- Physicians were available only in a little over a quarter of the CHCs and Gynaecologists were available in only about 50% of the CHCs and District hospitals.
- A little over 10% of the Medical Officers positioned at the PHCs Proportion had been trained for NPCDCS/NHM (NCD related)/State program.
- More than a quarter 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 incidence & prevalence 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 above analysis. The two PBCRs of Arunachal Pradesh are situated at Naharlagun and Pasighat. The data analysed from these PBCRs 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 Arunachal Pradesh		
	Population	Literacy Rate (%)
Males	713912	72.6 %
Females	669815	57.7%
Total	13,82,611	65.4%

Source^[1]

PBCR Coverage – Arunachal Pradesh		
PBCR name	Naharlagun	Pasighat
PBCR location	Tomo Riba Institute of Health & Medical Sciences Hospital, Naharlagun	Bakin Pertin General Hospital, Pasighat
Coverage area	Fifteen Districts: Tawang, West kameng, East Kameng, Pakke Kessang, Upper subansiri, Kamle, Lower subansiri, Kurung kumey, Kra Daadi, Papumpare, ICR, West siang, Lower Siang, Leparada & Shi Yomi	Three Districts: East siang, Siang and Upper Siang
Year of establishment	2011	2011
Number of sources of registration	40	65
Area (in Sq. km)	42095	10193
Coverage of urban and rural area (%)	25.8 & 74.2	25.4 & 74.6

1.1 Profile of cancer in Arunachal Pradesh ^[2]

Cancer is among the top five leading causes of death in the State ^[3]. In West Arunachal, the proportion of stomach cancer (23.2%) was highest among males, followed by liver cancer (20.1%) and cancer of the oesophagus (7.7%). In females, the stomach was a leading cancer site (14.6%), followed by the breast (12.1%) and cervix uteri (11.6%). In Pasighat, the proportion of stomach cancer (18.1%) was highest among males, followed by lung cancer (7.8%) and cancer of the liver (5.9%). In females, the cervix was the leading cancer site (18.5%) followed by the breast (16.8%) and stomach (9.6%). Nearly one-fourth (24.5%) of cancers in males and close to one-tenth (11.1%) in females were cancer in sites associated with tobacco use. The oesophagus (7.7% in males; 2.8% in females) followed by the lung (6.5% in males; 3.9% in females) constituted the leading sites in West Arunachal. In Pasighat, about 29.0% of the cancers in males and 10.9% in females were tobacco-related cancer sites. Among these, oesophagus cancers (5.6% in males; 4.0% in females) and lung (7.8% in males, 3.0% in females) are the top two leading cancer sites in Pasighat.

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

Gender	West Arunachal		Pasighat	
	Number of New Cancer Cases	AAR	Number of New Cancer Cases	AAR
Males	1222	101.4	321	120.4
Females	1171	96.3	303	116.2

Table 1.2 Probability of one in number of persons developing any of the leading cancer in 0-74 years' age in Males & Females, West Arunachal.

Sl.No	West Arunachal			
	Males		Females	
	Type of Cancer	Probability	Type of Cancer	Probability
1.	Stomach	1 in 32	Stomach	1 in 62
2.	Liver	1 in 36	Cervix	1 in 88
3.	Oesophagus	1 in 97	Breast	1 in 92
4.	Lung	1 in 110	Liver	1 in 105
5.	Nasopharynx	1 in 202	Thyroid	1 in 158

Table 1.3 Probability of one in number of Persons developing any of the leading cancer in 0-74 years age in Males & Females, Pasighat

Sl.No	Pasighat			
	Males		Females	
	Type of Cancer	Probability	Type of Cancer	Probability
1.	Stomach	1 in 33	Cervix Uteri	1 in 51
2.	Lung	1 in 77	Breast	1 in 55
3.	Oesophagus	1 in 115	Stomach	1 in 73
4.	Liver	1 in 166	Ovary	1 in 106
5.	Hypopharynx	1 in 168	Oesophagus	1 in 127

1.3 Availability of Health Services related to Cancer Care in Arunachal Pradesh 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 Arunachal Pradesh. The public health cancer continuum ranges from prevention to screening to treatment, including palliative care.

Table. 1.4 Availability of public health care services

A.Public sector health facilities ^[4,5,6]	Number
Sub centres (SC)	347
Health and Wellness Centre - Sub Centre (HWC-SC)	78
Primary Health Centres (PHC)	127
Health and Wellness Centre - Primary Health Centre (HWC-PHC)	38
Community Health Centres (CHC)	57
Sub-district Hospitals (SDH)	00
District Hospitals (DH)	19
Number of Government allopathic doctors and dental surgeons	600
B. Tertiary health care facilities	
Medical Colleges ^[7]	01
State cancer institute ^[8]	00
Regional cancer care centre ^[9]	00
C. State government health scheme ^[10]	Chief Minister's Arogya Arunachal Yojna (CMAAY) Mission Pratiraksha Incentivisation on Full Immunisation Chief Minister Renal Replacement Society, Arunachal Pradesh Dulari Kanya

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 NCD targets (10) and indicators (21) by 2025 ^[11] to achieve universal health coverage, ongoing surveillance would determine the outcomes of national health programmes. Therefore, establishing a surveillance system is of vital importance to track changes and evaluate interventions.

The survey objectives were as follows.

1.6 Objectives

1.4.1 Primary objective

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

1.4.2 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 Arunachal Pradesh

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 Arunachal Pradesh, with 100% coverage by both the PBCR (West Arunachal and Pasighat), as shown in the table below:

Table 2.3.1 Sample size charting for the survey

SL No.	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)
1	Naharlagun - PBCR	Arunachal Pradesh (8 Districts)	13,83,727	792662	515541	434610	84.3	2400	50
2	Pasighat - PBCR	Arunachal Pradesh (2 Districts)				80931	15.7	480	10
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 in 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.

For the State of Arunachal Pradesh with two PBCRs, one of the PBCRs was selected as an implementing agency, with the other PBCR designated as 'collaborator'.

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 were solved through FAQ's and virtual calls.

Principal Investigators (PI) and Co-Principal Investigators (Co-PI) from both PBCRs were trained in all survey procedures as part of the CCA's two-day Training of Trainers program. A classroom-based training, demonstrations, and hands-on and mock field drills were undertaken for the research team during the 3-day training program from 13th -to 15th of November, 2019, at Assam Medical College, Dibrugarh.

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.

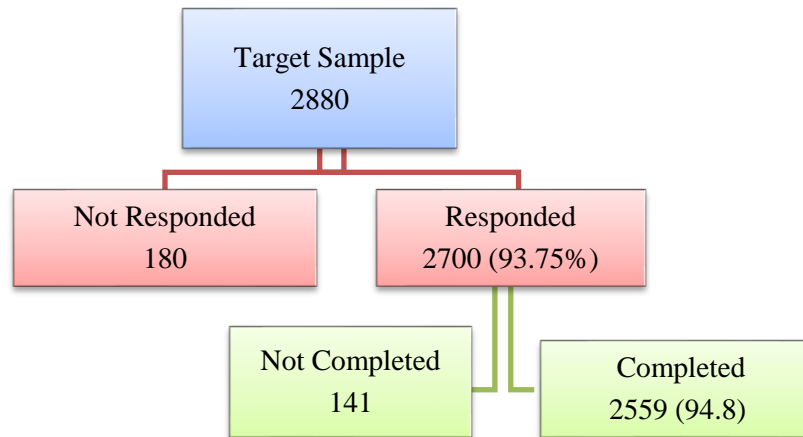
The data from all PSUs' were compiled and cleaned, following which weighting procedures were followed for adjusting for sampling and population proportions and response rates. The data analysis was done using STATA 14.1 with prior developed analysis commands by complex survey analysis. The detailed statistical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

2.9 Ethical Considerations

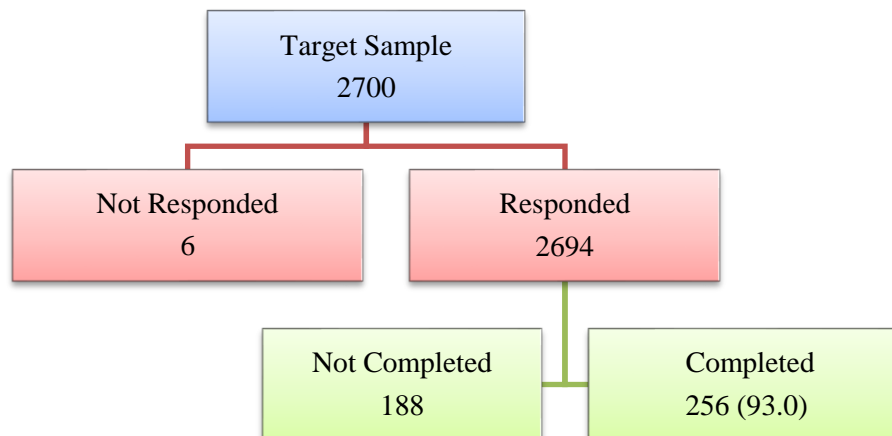
Naharlagun and Pasighat PBCR received its institutional ethical clearance from their institutional ethics committee (Naharlagun - DME (T&R)/IEC/2015/1 (25/10/2019); Pasighat - HP/IEC/06/2019/242-6 (25/10/2019). The survey received ethical clearance from the Ethics review committee of the CCA, ICMR – 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

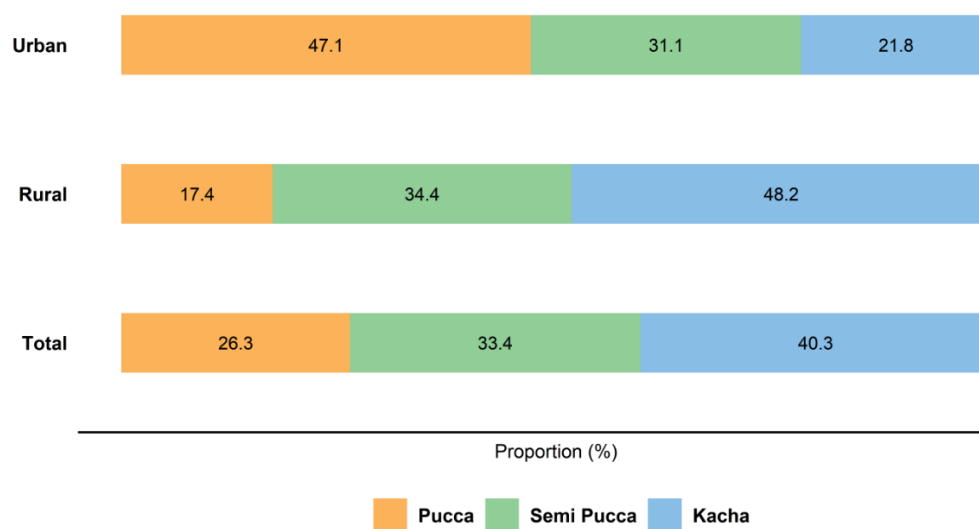
	Urban	Rural	Combined
Median (IQR*)	4.0 (3)	4.0 (2)	4.0 (3)

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*



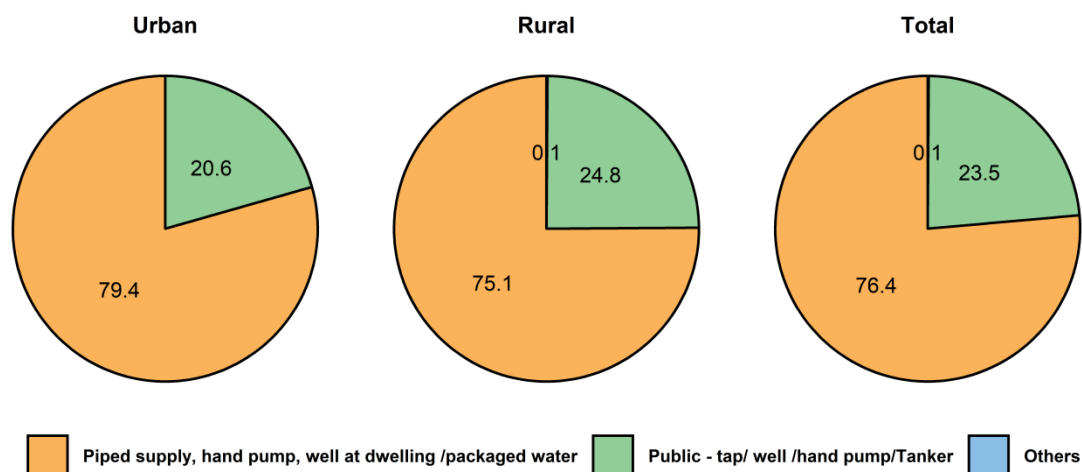
*Type of house is defined based on roof, floor and walls.

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.

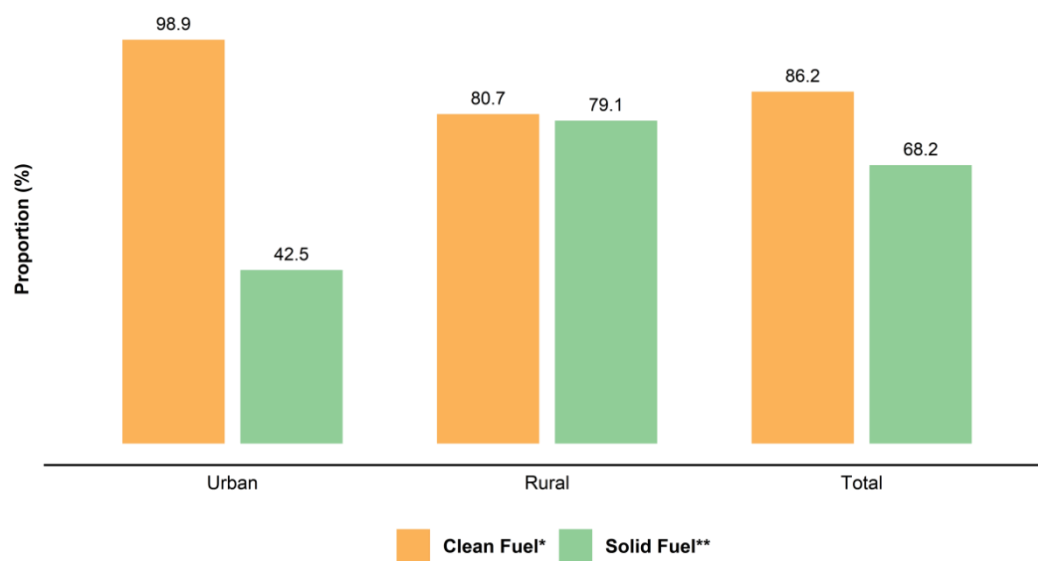
Kacha House: The walls and /or roof are made of material other than those mentioned above, such as unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc.

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)

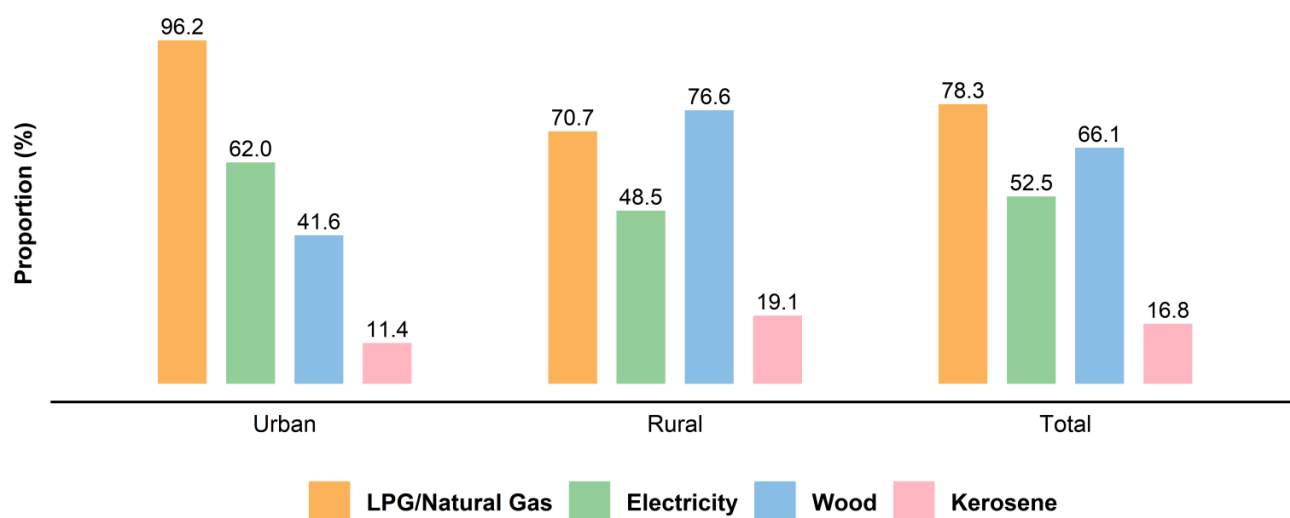
3.1.3 (a) Type of fuel



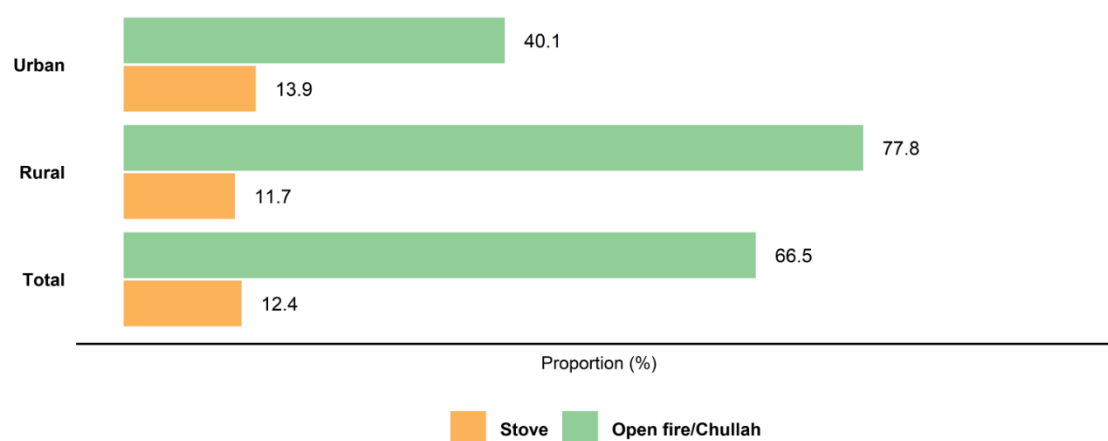
*Clean fuel: Electricity, LPG/ Natural Gas, Biogas

**Solid Fuel: Charcoal, Coal/lignite, wood, Straw/Shrubs/Grass, Agricultural crop waste, Dung cakes¹³

3.1.3 (b) Type of fuels used for cooking purposes



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



3.2 Awareness and Attitudes towards Cancer (Percentage)

	Urban	Rural	Combined
Awareness about HPV Vaccine (%)	1.4	0.5	0.8
Felt ashamed or hesitant to talk about cancer (%)	0.3	0.4	0.4

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=687)	Rural (N=1819)	Combined(N =2506)
Percentage of households with diagnosed cancer cases			
Percentage–alive	5 (0.7)	4 (0.2)	9 (0.4)
Percentage–deceased	32 (4.7)	46 (2.5)	78 (3.1)

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=5)	(N=4)	(N=5)	(N=4)	(N=9)
< 6months	0 (0.0)	1 (25.0)	0 (0.0)	1 (25.0)	1 (11.1)
6-12months	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
13– 24months	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
> 24months	3 (60.0)	3 (75.0)	4 (80.0)	2 (50.0)	6 (66.7)
Don't know	2 (40.0)	0 (0.0)	1 (20.0)	1 (25.0)	2 (22.2)
Duration between diagnosis and death of the patient*	(N=34)	(N=47)	(N=33)	(N=45)	(N=78)
< 6months	6 (17.6)	11 (23.4)	7 (21.2)	10 (22.2)	17 (21.8)
6-12months	2 (5.9)	1 (2.1)	1 (3.0)	2 (4.4)	3 (3.8)
13– 24months	4 (11.8)	5 (10.6)	5 (15.2)	4 (8.9)	9 (11.5)
> 24months	1 (2.9)	2 (4.3)	2 (6.1)	1 (2.2)	3 (3.8)
Don't know	21 (61.8)	28 (59.6)	18 (54.5)	28 (62.3)	46 (59.1)

* 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)	61.3	33.3	64.5
Average duration of cancer (deceased)	8.3	9.0	10.9
Average duration of cancer (alive/deceased)	18.3	13.2	22.2

*Extracted from the date of diagnosis

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	80.8	74.0	73.5	78.4	75.8
45 –69	17.9	22.5	23.4	18.9	21.3
70 and above	1.3	3.5	3.1	2.7	2.9
Marital Status					
Never married	25.1	11.5	17.8	12.1	15.1
Currently married/ cohabiting	69.7	79.9	76.1	78.4	77.2
Separated/Not living together/ Divorced	1.3	3.7	4.2	1.8	3.0
Widowed	3.8	4.9	1.9	7.6	4.6
Undisclosed	0.1	0.04	0.0	0.1	0.1
Highest level of Education					
Lessthanclass6	8.8	21.2	18.3	15.0	16.9
Class6to10	26.8	38.6	32.3	37.6	34.6
Class 11 or12	25.6	19.6	19.0	25.3	21.7
Graduation or diploma completed	32.3	15.0	24.8	15.8	21.0
Post-graduation	6.4	5.0	5.6	5.3	5.5
No response	0.1	0.6	0.0	1.0	0.3
Occupation					
Professional	18.2	6.5	14.0	4.7	9.7
Medium or large Business	3.9	3.7	5.0	2.4	3.8
Middle / Senior Executive/officer in organization	4.7	0.9	2.7	1.0	1.9
Agricultural land owner	1.9	20.3	18.1	12.4	15.4
Sales and Marketing executives/Clerical	5.5	3.0	4.1	3.2	3.7
Self-employed and small business	8.3	11.3	11.9	8.9	10.5
Skilled manual labourer	8.1	7.1	12.2	2.1	7.4
Unskilled manual /agricultural labourer	5.9	10.6	11.3	7.1	9.3
Student	17.7	5.6	9.7	7.9	8.8
Homemaker	18.3	22.3	0.6	44.3	21.1
Retired	1.0	2.9	3.3	1.3	2.4

Unemployed(able to work)	5.2	3.5	5.4	2.3	4.0
Unemployed (unable to work)	1.0	1.3	0.7	1.9	1.3
No response	0.0	0.9	0.8	0.5	0.6
Others	0.3	0.1	0.2	0.0	0.1

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

	Urban	Rural	Men	Women	Total
Religion					
Hinduism	21.4	14.7	20.5	12.0	16.5
Islam	3.1	1.1	1.7	1.5	1.6
Christian	43.7	50.1	42.2	55.2	48.4
Sikhism	0.0	0.02	0.03	0.0	0.01
Buddhism	5.5	7.6	6.9	7.1	7.0
Jainism	0.1	0.1	0.1	0.2	0.1
Donyl polo	17.4	14.4	16.1	14.2	15.2
Indegenous	7.3	10.8	10.4	9.4	9.9
None	1.5	1.2	2.07	0.4	1.3
Social Group					
General	14.7	13.2	17.1	9.7	13.6
OBC	4.9	0.5	1.9	1.5	1.7
SC	1.6	1.7	1.3	2.1	1.7
ST	78.8	84.5	79.7	86.6	83.0
Others	0.0	0.02	0.0	0.03	0.02

3.5 Obstetric History of Adult Females

	Urban	Rural	Total
Ever Pregnant (%)	62.5	79.2	75.0
Age at first Pregnancy (%)			
<18Years	10.3	11.5	11.3
18 –29Years	85.8	80.4	81.6
≥30 Years	3.9	8.1	7.3
Average age at first pregnancy* (in years)	22	22	22
Gravida*#	2.4	2.5	2.5
Ever breast fed	99.3	98.4	98.6
Never breast fed	0.7	1.6	1.4
Mean duration (in months) of breast feeding among ever pregnant women@	48.5	48.6	48.6

*Values are expressed as Mean;

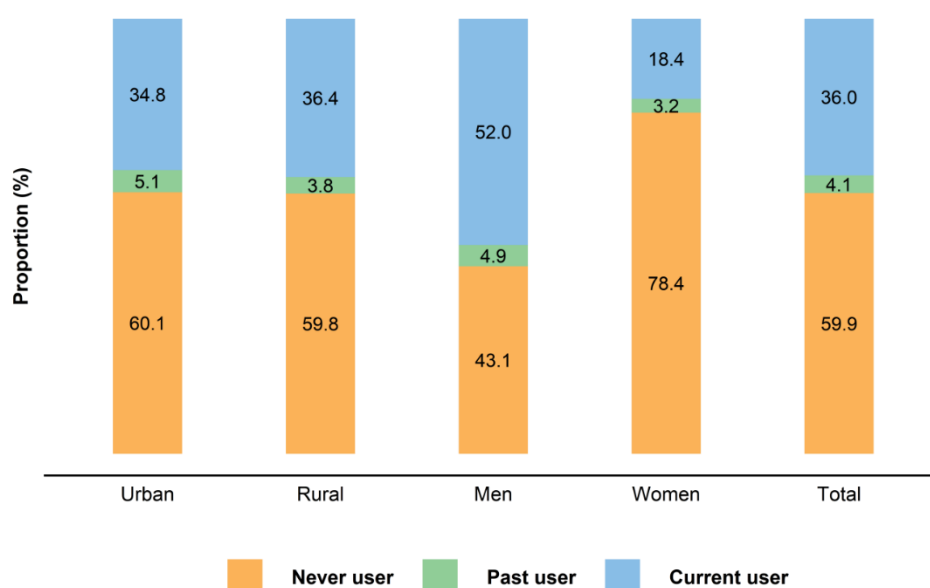
#Includes total number of confirmed pregnancies that a woman has had (includes abortion, still births or live births)

@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*	76.6	76.7	59.8	95.2	76.7
Past user**	6.4	3.4	6.1	2.2	4.2
Current user***	17.0	19.9	34.1	2.6	19.1

* 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	72.4	73.2	66.7	80.0	73.0
Past user	2.8	3.1	3.5	2.5	3.0
Current user	24.8	23.7	29.8	17.5	24.0

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	10.0	12.8	22.1	0.9	12.1
Only Smokeless Tobacco	17.9	16.5	17.9	15.8	16.9
Both Smoked and Smokeless Tobacco	6.9	7.1	11.9	1.7	7.1
Either Smoked or Smokeless Tobacco	34.8	36.4	51.9	18.4	36.1

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

	Urban	Rural	Men	Women	Total
Only Smoked Tobacco	8.6	11.0	19.2	0.6	10.4
Only Smokeless Tobacco	14.2	14.6	16.7	12.2	14.5
Both Smoked and Smokeless Tobacco	3.9	3.8	6.2	1.1	3.8
Either Smoked or Smokeless Tobacco	26.7	29.4	42.1	13.9	28.7

* 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	27.7	45.1	39.6	61.2	41.0
Manufactured Cigarettes	57.1	34.0	41.8	4.5	39.4
Hand-rolled Cigarettes	0.9	0.9	1.0	0.0	0.9
Pipes/ Chilam	0.0	1.3	1.1	0.0	1.0
Cigars, Cheroots	0.0	0.5	0.4	0.0	0.4
Hookah/No. of Shisha session	0.0	0.2	0.1	0.0	0.1
Local smoked tobacco products	0.7	0.6	0.6	0.0	0.6
Others	0.0	0.1	0.1	0.0	0.1
Smokeless Tobacco					
Chewing tobacco	53.8	62.5	61.3	58.0	60.1
Pan with Zarda, Betel with Tobacco quid	27.9	19.4	21.0	23.1	21.7
Tuibur, Tobacco Snuff, by mouth	5.4	5.5	7.4	1.8	5.4
Snuff, by nose	0.0	0.2	0.2	0.0	0.1
Others	0.0	0.3	0.3	0.0	0.2

*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*	19.1	18.0	18.1	18.8	18.3
Smoked tobacco	18.1	17.3	17.5	17.2	17.5
Smokeless tobacco	20.2	18.7	19.2	19.0	19.2
Age at cessation					
Any form of tobacco**	29.4	32.5	33.0	28.1	31.4
Smoked tobacco	27.2	32.7	32.1	26.4	30.7
Smokeless tobacco	34.2	31.1	34.2	29.4	32.0

*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)

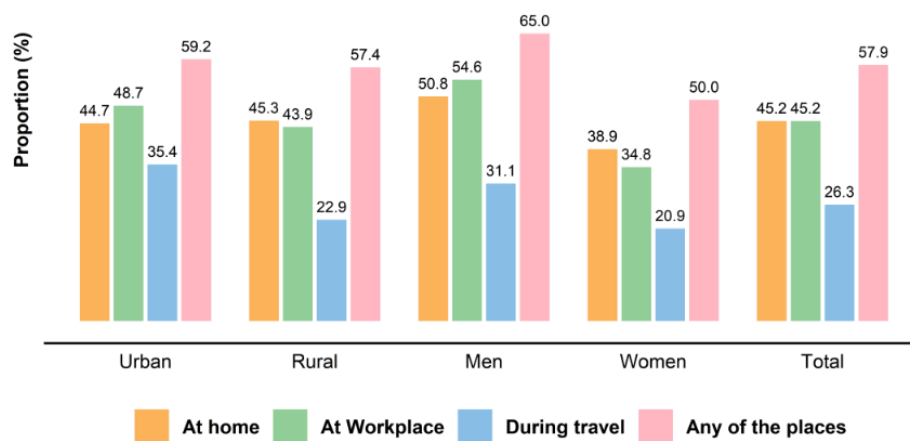
	Urban	Rural	Men	Women	Total
Any form of tobacco	9.6	17.9	15.8	12.0	14.8
Smoked tobacco	15.8	12.8	16.0	10.9	13.6
Smokeless tobacco	11.2	16.3	16.0	11.3	14.5

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)	27.5	21.2	22.7	23.5	22.7
Advised to quit					
Any form of tobacco use	4.7	2.8	4.5	2.0	3.3
Smoked tobacco use	3.9	1.8	3.6	1.0	2.4
Smokeless tobacco use	2.8	2.4	3.1	1.8	2.5

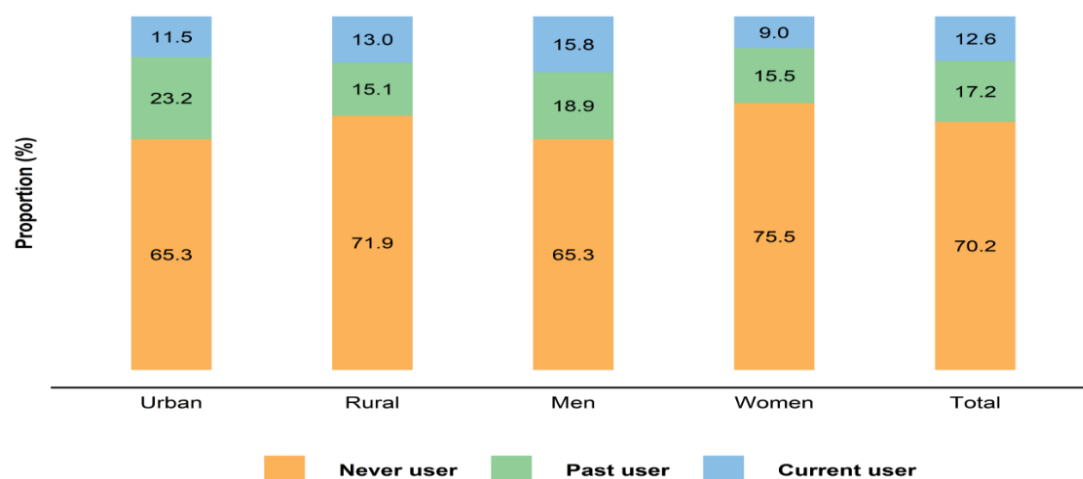
3. 6.2 Exposure to Second Hand Smoke

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)



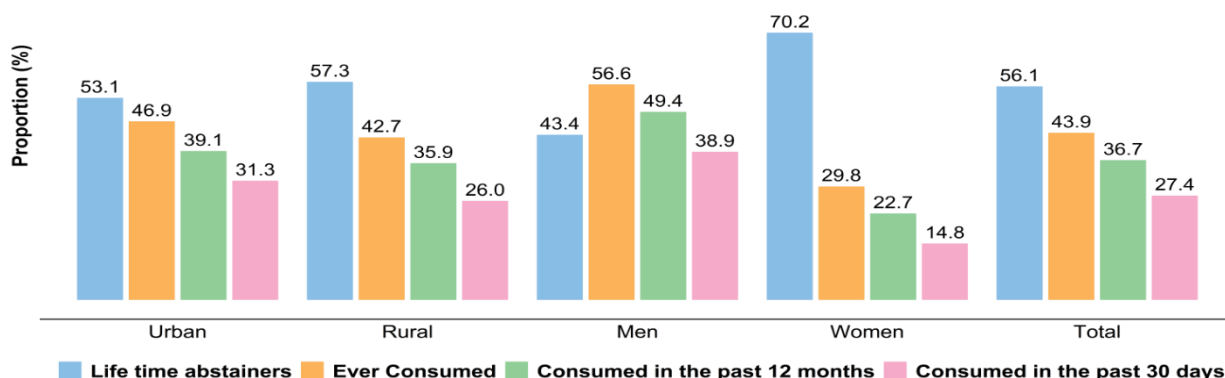
*Includes pan masala, betel quid, areca nut.

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	72.8	84.5	78.4	84.7	81.4
Past user	21.9	10.7	15.6	11.6	13.7
Current user	5.3	4.8	6.0	3.7	4.9
Betel quid					
Never user	83.9	85.9	82.5	88.4	85.3
Past user	12.9	7.4	10.0	7.7	8.9
Current user	3.2	6.7	7.5	3.9	5.8
Areca nut					
Never user	80.5	82.1	78.2	85.5	81.6
Past user	12.9	10.0	11.4	10.1	10.8
Current user	6.6	7.9	10.4	4.4	7.6

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	18.3	17.4	17.5	18.1	17.7

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	67.8	63.5	63.5	67.8	64.7
Daily/ almost daily	5.9	11.0	9.7	9.3	9.6
Weekly	9.3	9.3	9.4	8.9	9.3
Monthly	7.1	4.2	5.3	4.4	5.0
Less than Monthly	7.8	10.8	11.0	7.4	10.0

Failed to do usual routine work due to drinking habit					
Never	78.6	77	75.5	82.2	77.5
Daily/ almost daily	1.3	2.1	1.8	2.1	1.9
Weekly	5.5	3.7	4.8	2.9	4.2
Monthly	4.6	2.6	3.6	2.1	3.2
Less than Monthly	7.7	8.4	9.5	5.2	8.2
Need of first drink in the morning					
Never	85.3	79.7	79.3	86	81.3
Daily/ almost daily	1.9	4.2	3.4	3.9	3.5
Weekly	3.9	4.2	5.1	1.7	4.1
Monthly	2.9	1.7	2	2.3	2.1
Less than Monthly	4.4	7.4	7.5	4.3	6.6

*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	10.6	9.5	15.2	4.2	9.8
45 – 69 Years	12.4	20.0	22.7	12.2	18.3
70 years and above	0.0	6.1	8.1	1.9	5.4
18+ years	10.8	11.8	16.7	5.7	11.5

*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	1.9	1.7	2.3	1.2	1.7
45 - 69 Years	5.1	3.9	4.9	3.1	4.1
70 years and above	0.0	0.0	0.0	0.0	0.0
18+ years	2.4	2.1	2.8	1.5	2.2

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	1.9	1.4	1.4	1.6	1.5
Vegetables	6.1	5.9	5.9	5.9	5.9
Fruits and/or Vegetables	6.1	5.9	5.9	6.0	6.0
Fruit or Vegetable juice**	1.5	1.3	1.3	1.4	1.3

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	0.4	0.3	0.3	0.4	0.3
Vegetables	2.0	2.0	2.0	2.0	2.0
Fruits and/ or Vegetables*	2.4	2.3	2.3	2.3	2.3
Fruit or Vegetable Juice**	0.4	0.3	0.3	0.3	0.3

*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	2.1	1.9	2.0	1.9	2.0
Fish	1.8	1.7	1.8	1.6	1.7
Red Meat	1.9	2.0	2.0	1.9	2.0
Either Birds/ Poultry or Fish or Red Meat*	2.3	2.1	2.2	2.1	2.2

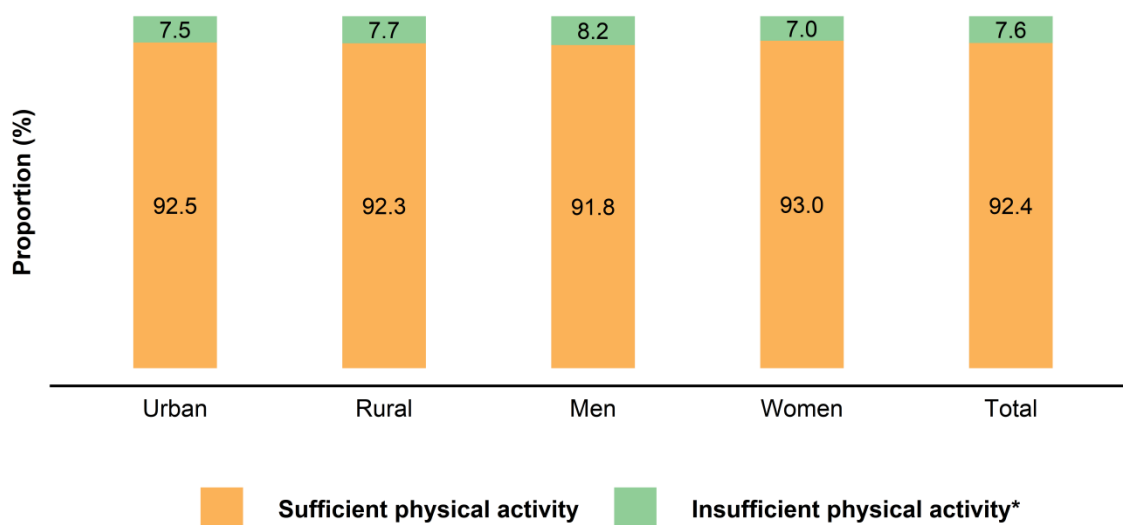
*If an adult consumed more than one meat item, the maximum number of days for any one item was considered

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	83.7	86.5	83.9	87.8	85.8
Mean number of days of consumption per week	3.9	4.3	4.1	4.2	4.2

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 600MET minutes per week

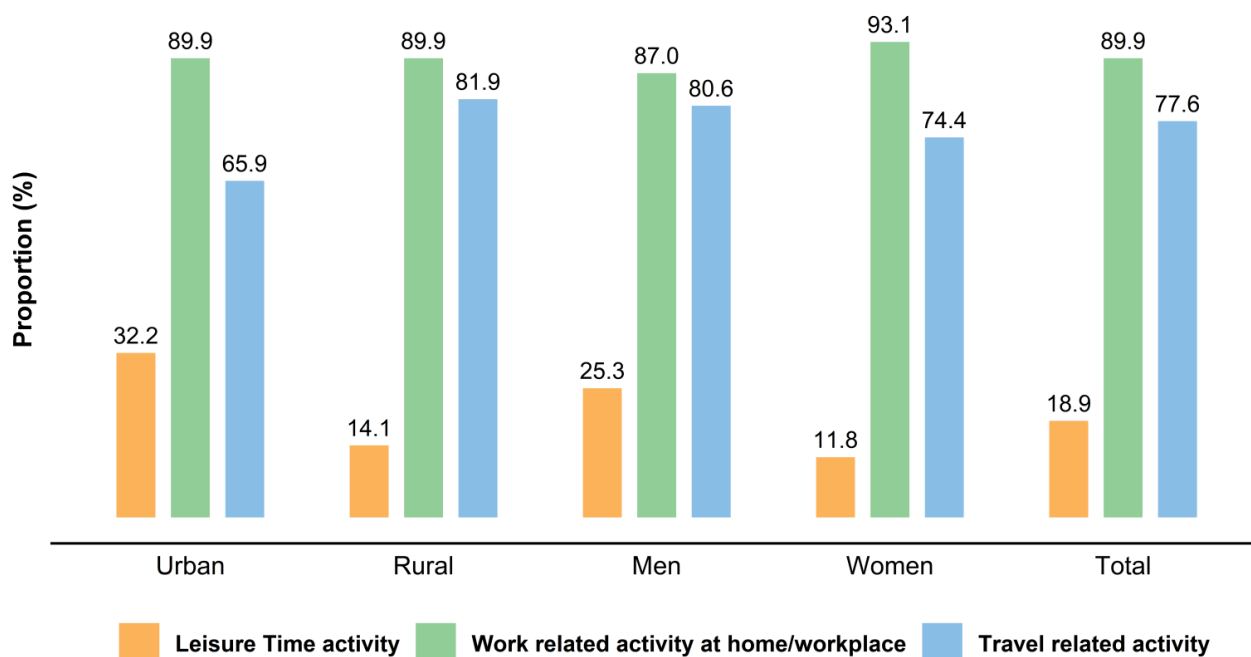
3.6.6.2 Nature of physical activity in which the participants are engaged by place of residence and gender (Percentage)

	Urban	Rural	Men	Women	Total
Routine work at home/ workplace					
Vigorous-intensity activity*	28.7	52.8	49.0	43.6	46.6
Moderate intensity activity**	86.1	79.7	73.1	90.6	81.4
Recreational/ leisure activities					
Vigorous-intensity activity	12.2	7.5	15.4	1.4	8.7
Moderate intensity activity	29.0	10.2	19.2	10.8	15.2

*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.

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



3.6.6.3 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	5.3	5.4	4.5	6.3	5.4
45 –69 Years	19.6	7.6	10.6	9.9	10.3
70 years and above	7.6	0.0	1.6	0.0	0.9
18+ years	7.9	5.7	5.8	6.8	6.3

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	53.0	40.8	43.7	44.5	44.1

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	0.5	0.4	1.1	0.8
15 –19 Years	31.1	32.2	23.7	40.7	31.9
20 -24 Years	48.0	37.3	40.7	40.7	40.7
>25 Years	19.5	30.0	35.2	17.5	26.6

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

	Urban	Rural	Men	Women	Total
Single sexual partner	70.9	76.9	67.0	84.5	75.3
Multiple sexual partner*	10.8	9.1	15.7	2.7	9.6

*Two or more sexual partners

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

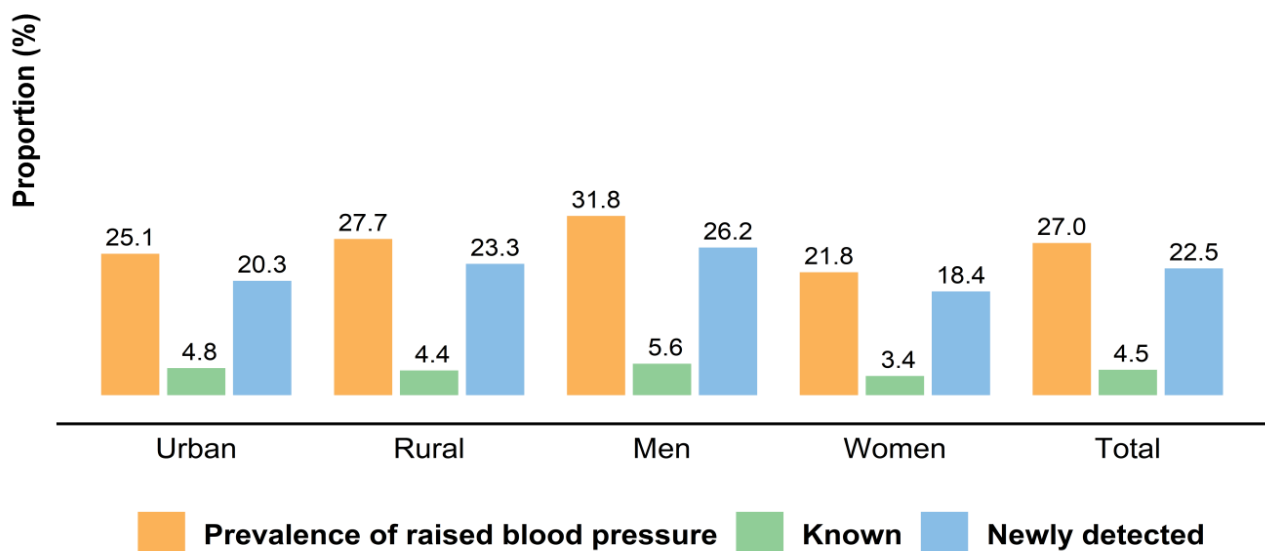
The mean age at first sexual intercourse was 21.6 years, which was lower among women (20.5 years) than men (22.7 years)

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	0.6	0.4	0.6	0.2	0.4
Type of symptoms					
Urethral / vaginal discharge	34.6	81.4	57.3	88.0	65.2
Blisters or ulcers (sores) on the mouth, lips, genitals, anus, or surrounding area	0.0	3.3	2.9	0.0	2.2
Burning or pain during urination	65.4	72.0	91.4	6.9	69.7
Warts or bumps on the genitals, anus, or Surrounding areas	10.1	3.4	4.7	8.8	5.7
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 \geq 140 and / or diastolic blood Pressure \geq 90

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

	Urban	Rural	Men	Women	Total
Normal	23.4	15.7	14.0	21.9	17.8
Pre -Hypertension	52.8	56.9	55.0	56.7	55.8
Hypertension–Stage1	18.3	22.2	23.7	18.4	21.2
Hypertension–Stage2	5.5	5.2	7.3	3.0	5.3

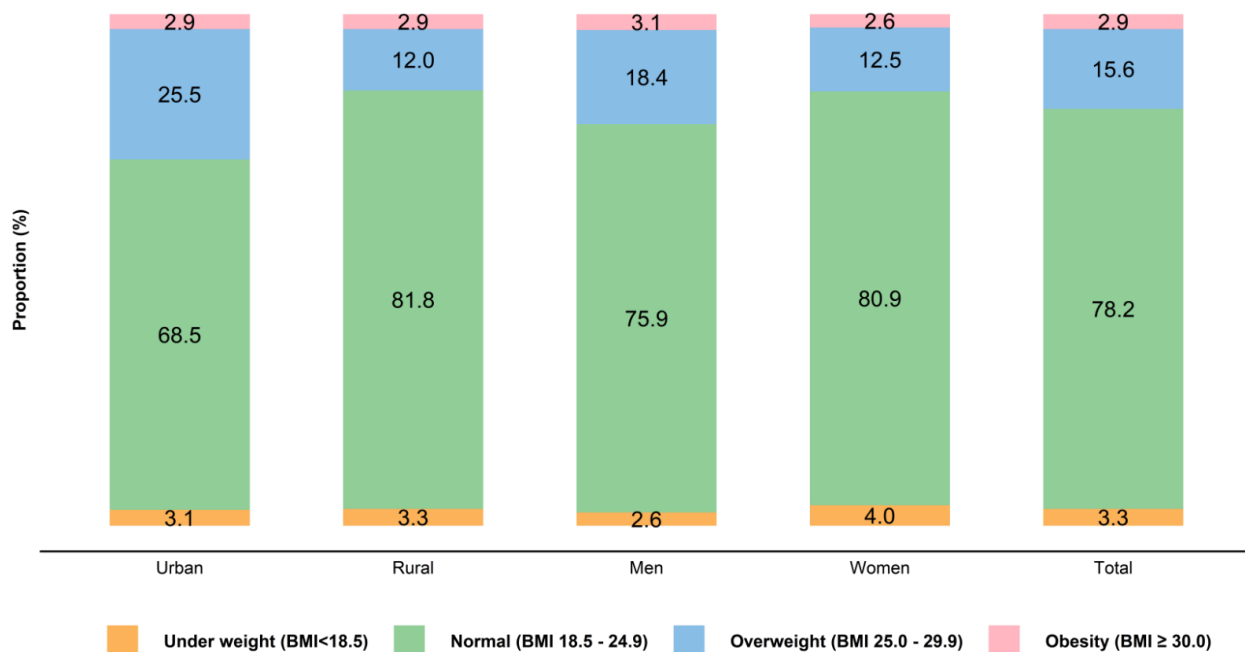
**Normal-(SBP<120, DBP<80); Pre –hypertension (SBP: 120-139, DBP: 80-89);

Hypertension Stage 1 (SBP: 140-159, DBP: 90-99); Hypertension Stage 2(SBP≥160; DBP≥100) among measured.

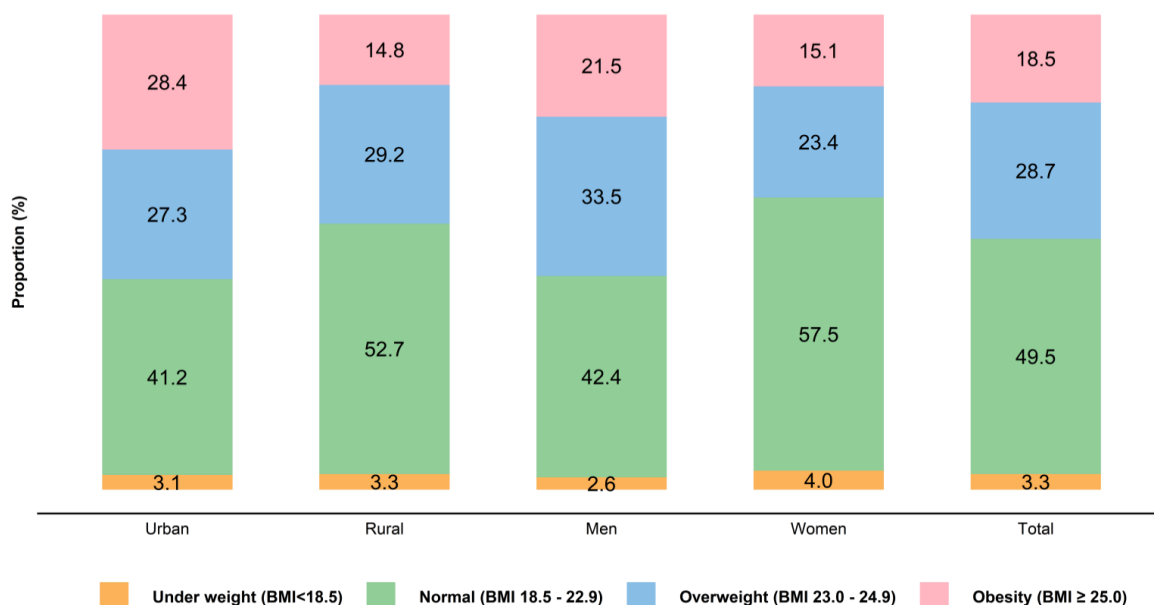
3.8 Physical Measurement

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/m ²	28.4	14.8	21.5	15.1	18.5
Obese (BMI ≥ 30.0) kg/m ²	2.9	2.9	3.1	2.6	2.9

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

	Urban	Rural	Men	Women	Total
18-44 Years	55.6	52.2	29.5	78.0	53.2
45 –69 Years	56.1	47.6	35.6	69.1	49.5
70 years and above	80.2	54.4	34.9	86.7	57.4
18+ years	56.0	51.2	31.1	76.6	52.5

*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	4.4	2.3	2.7	3.1	2.9
45 –69 Years	17.3	2.5	6.2	5.2	5.8
70 years and above	0.0	0.2	0.3	0.0	0.2
18+ years	6.7	2.2	3.5	3.4	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
Prevalenc of raised Blood glucose	3.0	1.9	2.6	1.8	2.2
Known	2.0	1.0	1.4	1.1	1.3
Newly detected	1.0	0.9	1.2	0.7	0.9

*Raised fasting blood glucose- \geq 126mg/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	95.5	95.4	95.0	95.9	95.5
100– 109 mg/dl	2.1	2.5	2.2	2.6	2.4
110– 125 mg/dl	0.9	0.8	1.0	0.6	0.8
\geq 126 mg/dl	1.5	1.2	1.7	0.9	1.3

3.10 Clustering of risk factors

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

(Percentage)

	Urban	Rural	Men	Women	Total
18-44 Years	17.6	14.7	23.0	7.8	15.5
	(13.2-23.2)	(10.8-19.7)	(19.6-26.7)	(5.2-11.6)	(12.4-19.2)
45 –69 Years	38.8	28.3	33.3	27.0	30.7
	(29.0-49.6)	(22.6-34.7)	(28.3-38.7)	(18.0-38.5)	(25.6-36.2)
70 years and above	13.7	47.9	70.4	9.4	44.0
	(3.1-44.3)	(21.9-75.1)	(42.1-88.6)	(2.7-27.7)	(21.2-69.6)
18+ years	21.4	18.9	26.9	11.5	19.6
	(16.8-26.7)	(15.1-23.5)	(23.5-30.6)	(8.7-14.9)	(16.5-23.0)

*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/m²), 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	31.0	48.0	45.6	41.0	43.4
Measured ever in life	69.0	52.0	54.4	59.0	56.6
Within past 1 year	46.9	30.1	33.2	36.2	34.6
>1year	22.1	21.9	21.2	22.8	22.0

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	67.0	66.0	60.5	76.7	66.3
On treatment*	31.5	20.1	23.4	23.1	23.3
Adherence to treatment**	19.9	5.2	6.1	15.2	9.3
Blood pressure under control ***	27.6	15.1	19.2	17.6	18.6

*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	70.6	84.4	77.8	81.1	79.4
Private/ NGO screening camp/ Health facility	29.4	15.6	22.2	18.9	20.6
Current source of consultation for raised blood pressure					
Allopathic doctor from Public sector	33.9	38.9	36.4	39.4	37.5
Allopathic doctor from Private/ NGO health facility	14.6	0.7	3.6	6.5	4.6

*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	59.0	43.7	44.9	51.3	48.0
45 –69 Years	64.1	38.8	45.2	43.5	44.5
70 years and above	94.0	53.0	51.2	66.3	57.8
18+ years	60.3	42.9	45.1	50.2	47.5

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	65.4	78.8	77.8	72.3	75.2
Measured ever in life	34.6	21.2	22.2	27.7	24.8
Measured in the past					
Within 1 year	23.3	10.3	12.6	15.0	13.8
>1 year	11.3	10.9	9.6	12.7	11.0

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	72.9	75.8	60.4	94.0	74.6
On treatment*	31.4	27.8	30.8	27.2	29.3
Adherence to treatment**	20.9	27.8	30.8	16.7	24.9
Blood glucose under control***	73.4	71.3	64.0	83.4	72.2

* 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 \leq 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	67.6	77.2	70.5	75.1	72.9
Private/ NGO screening camp/ Health facility	32.4	22.8	29.5	24.9	27.1
Current consultation for raised blood glucose					
Allopathic doctor from Public sector	30.5	10.4	13.3	26.3	18.8
Allopathic doctor from Private/ NGO health facility	19.3	24.3	22.8	21.4	22.2

* 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	30.6	19.4	18.2	27.1	22.6
45 –69 Years	44.9	21.2	28.9	23.3	26.5
70 years and above	66.5	12.8	22.0	15.2	19.0
18+ years	33.6	19.6	20.8	26.1	23.3

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	4.3	7.1	3.1	8.7	6.0
30 –49 Years	9.2	5.1	6.0	6.2	6.1
50-69 Years	11.3	2.1	5.4	2.2	4.0
70 years and above	0.0	0.0	0.0	0.0	0.0
18+ years	7.4	4.9	5.0	6.2	5.6
Source of information*					
TV/ Newspaper/ social media	66.2	59.8	63.3	61.0	62.1
Friends/ family	48.6	86.2	65.3	79.8	73.0
Health worker	37.8	6.8	24.9	11.3	17.7
Health awareness camps	15.9	1.4	5.5	7.3	6.5

*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	0.3	0.1	0.1
Breast cancer*	1.4	0.2	0.4
Oral cancer	0.6	0.2	0.3

*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	16.2	56.4	30.4
Only Ultrasound of breast or mammogram	45.6	36.3	42.3
Performed breast self-examination	54.4	36.3	48.0

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

3.12.4 Methods of Cervical cancer screening by place of residence (Percentage)

	Urban	Rural	Total
VIA	0.0	47.7	17.2
PAP	100.0	52.3	82.8

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

3.12.5 –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	0.8	0.2	0.1	0.6	0.3
Breast Cancer*	1.3	1.7	0.0	1.6	1.6
Cervical Cancer*	0.8	0.1	0.0	0.3	0.3

*Among women respondents

B. Health Facility Assessment

3.13 Public Primary Health Care Centres*

3.13.1 Infrastructure and type of available services

	Urban (n=2)	Rural (n=15)	Total (N=17)
Types of services			
Outpatient services	2 (100.0)	13 (86.7)	15 (88.2)
Inpatient services	1 (50.0)	4 (26.7)	5 (29.4)
Emergency services	1 (50.0)	8 (53.3)	9 (52.9)
Availability of functional telephone facility	1 (50.0)	4 (26.7)	5 (29.4)
Availability of ambulance facility¹	1 (50.0)	8 (53.3)	9 (52.9)
Electricity and functional electricity back up	1 (50.0)	7 (46.7)	8 (47.1)

*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=2)	Rural (n=15)	Total (N=17)
Written standard treatment guidelines under NPCDCS availability	1 (50.0)	1 (6.7)	2 (11.8)
Cancer screening availability			
Oral Cancer	1 (50.0)	0 (0.0)	1 (5.9)
Cervical Cancer	1 (50.0)	0 (0.0)	1 (5.9)
Breast Cancer	1 (50.0)	0 (0.0)	1 (5.9)
All three cancers	1 (50.0)	0 (0.0)	1 (5.9)
Method of screening cancer			
Organized Screening*	1 (50.0)	0 (0.0)	1 (5.9)
Opportunistic screening**	0 (0.0)	0 (0.0)	0 (0.0)
Place of referral of patients found positive after screening			
CHC	0 (0.0)	0 (0.0)	0 (0.0)

DH	0 (0.0)	0 (0.0)	0 (0.0)
Tertiary Care Hospital	1 (50.0)	0 (0.0)	1 (5.9)
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 behaviour

	Urban (n=2)		Rural (n=15)		Total (N=17)	
	In house	In Vicinity	In house	In Vicinity	In house	In Vicinity
Availability of Counselling facilities for risk behaviour through counsellor or specialised personnel*						
Tobacco cessation	1 (50.0)	0 (0.0)	3 (20.0)	2 (13.3)	4 (23.5)	2 (11.8)
Dietary Modification	0 (0.0)	0 (0.0)	3 (20.0)	0 (0.0)	3 (17.6)	0 (0.0)
Physical Activity	0 (0.0)	0 (0.0)	2 (13.3)	1 (6.7)	2 (11.8)	1 (5.9)
Alcohol Cessation	1 (50.0)	0 (0.0)	3 (20.0)	2 (13.3)	4 (23.5)	2 (11.8)

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

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

	Urban (n=2)		Rural (n=15)		Total (N=17)	
IEC materials related to Cancer displayed/ available in the patient waiting room/outpatient department						
Posters	2 (100.0)		6 (40.0)		8 (47.1)	
Videos	1 (50.0)		0 (0.0)		1 (5.9)	
Pamphlets	1 (50.0)		2 (13.3)		3 (17.6)	
Booklets	2 (100.0)		2 (13.3)		4 (23.5)	

3.13.5 Availability of Human Resources

Staff	Urban (n=2)		Rural (n=15)		Total (N=17)	
	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)	2 (100.0)	2 (100.0)	9 (60.0)	0 (0.0)	11 (64.7)	2 (11.8)
AYUSH Medical Officer	2 (100.0)	2 (100.0)	6 (40.0)	1 (6.7)	8 (47.1)	3 (17.6)
Staff Nurse	2 (100.0)	1 (50.0)	11 (73.3)	2 (13.3)	13 (76.5)	3 (17.6)
Auxiliary Nurse Midwife(ANM)	2 (100.0)	1 (50.0)	11 (73.3)	2 (13.3)	13 (76.5)	3 (17.6)
Lady Health Visitor/ Female Health Assistant/PHN	1 (50.0)	0 (0.0)	4 (26.7)	0 (0.0)	5 (29.4)	0 (0.0)
Male Health Assistant	1 (50.0)	0 (0.0)	5 (33.3)	0 (0.0)	6 (35.3)	0 (0.0)
Accountant cum data entry operator	1 (50.0)	0 (0.0)	3 (20.0)	0 (0.0)	4 (23.5)	0 (0.0)
Pharmacist	2 (100.0)	0 (0.0)	4 (26.7)	0 (0.0)	6 (35.3)	0 (0.0)
Lab Technician	2 (100.0)	0 (0.0)	6 (40.0)	0 (0.0)	8 (47.1)	0 (0.0)
Health educator	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Cold Chain &Vaccine Logistic Assistant	2 (100.0)	0 (0.0)	2 (13.3)	1 (6.7)	4 (23.5)	1 (5.9)

3.13.6 Availability of Laboratory procedures and equipment & supplies

	Urban (n=2)	Rural (n=15)	Total (N=17)
Availability of Laboratory¹			
Routine investigations ²	2 (100.0)	7 (46.7)	9 (52.9)
Cancer screening ³	0 (0.0)	0 (0.0)	0 (0.0)
Equipment & supplies available in stock			
General ⁴	2 (100.0)	13 (86.7)	15 (88.2)
Cancer screening ⁵	1 (50.0)	7 (46.7)	8 (47.1)

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=15)	DH (n=8)
Location		
Rural	7 (46.7)	2 (25.0)
Urban	8 (53.3)	6 (75.0)
Types of services		
Outpatient services	14 (93.3)	8 (100.0)
Inpatient services	10 (66.7)	8 (100.0)
Emergency services	15 (100.0)	7 (87.5)
Intensive Care Unit (ICU) or Cardiac Care Unit	0 (0.0)	0 (0.0)
Availability of functional Telephone facility	7 (46.7)	7 (87.5)
Availability of ambulance facility¹	15 (100.0)	7 (87.5)
Electricity and Functional electricity backup	15 (100.0)	8 (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=15)	DH (n=8)
Written standard treatment guidelines under NPCDCS availability	10 (66.6)	3 (37.5)
Cancer screening availability		
Oral Cancer	0 (0.0)	0 (0.0)
Cervical Cancer	0 (0.0)	0 (0.0)
Breast Cancer	0 (0.0)	0 (0.0)
All three cancers	0 (0.0)	0 (0.0)
Method of detecting cancer		
Organised Screening	0 (0.0)	0 (0.0)
Opportunistic screening	0 (0.0)	0 (0.0)
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)	0 (0.0)
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)	2 (28.6)

3.14.3 - Availability of Counselling facilities for risk behaviour and Cancer related IEC materials

	CHC (n=15)	DH (n=8)
Availability of Counselling facilities for risk behaviour through counsellor or Specialised personnel*		
Tobacco cessation	10 (66.7)	5 (62.5)
Dietary Modification	9 (60.0)	4 (50.0)
Physical Activity	6 (40.0)	5 (62.5)
Alcohol Cessation	10 (66.7)	5 (62.5)
IEC materials related to Cancer displayed/ available in the patient waiting room/ outpatient department		
Posters	12 (80.0)	2 (25.0)
Videos	1 (6.7)	0 (0.0)
Pamphlets	3 (20.0)	2 (25.0)
Booklets	3 (20.0)	3 (37.5)
Others	0 (0.0)	0 (0.0)

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

3.14.4 – Availability of Human Resources (Medical Staff)

	CHC (n=15)		DH (n=8)	
	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 (26.7)	2 (13.3)	6 (75.0)	2 (25.0)
Surgery	4 (26.7)	0 (0.0)	3 (37.5)	0 (0.0)
Gynaecology	7 (46.7)	2 (13.3)	4 (50.0)	1 (12.5)
Radiology	2 (13.3)	0 (0.0)	2 (25.0)	0 (0.0)
Pathology	2 (13.3)	0 (0.0)	4 (50.0)	0 (0.0)
General duty Medical Officer	15 (100.0)	7 (46.7)	6 (75.0)	0 (0.0)
AYUSH	13 (86.7)	5 (33.3)	5 (62.5)	0 (0.0)
Paediatrics	2 (13.3)	0 (0.0)	3 (37.5)	0 (0.0)

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

	CHC(n=15)		DH(n=8)	
	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	15 (100.0)	7 (46.7)	8 (100.0)	2 (25.0)
Pharmacist	14 (93.3)	1 (6.7)	7 (87.5)	0 (0.0)
Lab Technician	13 (86.7)	1 (6.7)	8 (100.0)	3 (37.5)
Physiotherapist	4 (26.7)	2 (13.3)	5 (62.5)	2 (25.0)
Radiographer	8 (53.3)	0 (0.0)	5 (62.5)	0 (0.0)
O.T technician	1 (6.7)	0 (0.0)	1 (12.5)	0 (0.0)
Social worker	1 (6.7)	0 (0.0)	2 (25.0)	2 (25.0)

Data Entry Operator	9 (60.0)	2 (13.3)	6 (75.0)	3 (37.5)
Rehabilitation therapist	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Counsellor	7 (46.7)	3 (20.0)	4 (50.0)	2 (25.0)
Others	5 (33.3)	4 (26.7)	6 (75.0)	6 (75.0)

3.14.6 – Availability of prevention / treatment procedures

	CHC(n=15)	DH(n=8)
HPV Vaccination	2 (13.3)	0 (0.0)
General surgical procedures	6 (40.0)	3 (37.5)
Laparoscopic procedures	2 (13.3)	2 (25.0)
Radiotherapy	0 (0.0)	0 (0.0)
Palliative care	0 (0.0)	0 (0.0)

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

	CHC(n=15)	DH(n=8)
Laboratory and other investigations¹		
Routine blood investigations²	15 (100.0)	8 (100.0)
Biochemistry³	15 (100.0)	8 (100.0)
Cardiac investigations⁴	6 (40.0)	4 (50.0)
Radiology⁵	9 (60.0)	4 (50.0)
Endoscopy⁶	0 (0.0)	2 (25.0)
Histopathology	0 (0.0)	2 (25.0)
Cervical cancer screening⁷	1 (6.7)	3 (37.5)
Available equipment in stock		
Essential⁸	10 (66.7)	6 (75.0)
Imaging⁹	0 (0.0)	1 (12.5)
Cardiopulmonary¹⁰	1 (6.7)	1 (12.5)
Dental¹¹	13 (86.7)	6 (75.0)
Laboratory¹²	4 (26.7)	2 (25.0)
Cancer screening¹³	1 (6.7)	2 (25.0)

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 Xray, 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 at least one of each adult weighing scale, Stadiometer/Wall markings for height, Measuring tape, Stethoscope and B.P Apparatus
9. Includes Xray Machine, Ultrasound machine and C.T scan Machine
10. Includes Nebulizer, infusion set, Oxygen mask, Oxygen cylinder, Pulse Oximeter, Laryngoscope, Adult amb bag, Cardiac monitor, Defibrillator, ECG Machine, EC Groll, 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=7)	Rural(n=2)	Total(n=9)
	Types of services		
Outpatient services	7 (100.0)	2 (100.0)	9 (100.0)
Inpatient services	7 (100.0)	1 (50.0)	8 (88.9)
Emergency services	7 (100.0)	2 (100.0)	9 (100.0)
Intensive Care Unit	2 (28.6)	0 (0.0)	2 (22.2)
	Cancer screening availability		
Oral Cancer	2 (28.6)	0 (0.0)	2 (22.2)
Cervical Cancer	2 (28.6)	0 (0.0)	2 (22.2)
Breast Cancer	2 (28.6)	0 (0.0)	2 (22.2)
Other Cancers	0 (0.0)	0 (0.0)	0 (0.0)
	Method of detecting cancer		
Organized Screening	0 (0.0)	0 (0.0)	0 (0.0)
Opportunistic screening	1 (14.3)	0 (0.0)	1 (11.1)
Treatment provided for Cancer	4 (57.1)	0 (0.0)	4 (44.4)
Availability of standard Treatment guidelines for cancer	2 (28.6)	0 (0.0)	2 (22.2)

3.15.2 – Counselling facilities for risk behaviour and Cancer related IEC materials availability

	Urban(n=7)	Rural(n=2)	Total(n=9)
Availability of Counselling facilities for risk behaviour through counsellor or specialised personnel*			
Tobacco cessation	4 (57.1)	0 (0.0)	4 (44.4)
Dietary Modification	4 (57.1)	0 (0.0)	4 (44.4)
Physical Activity	4 (57.1)	0 (0.0)	4 (44.4)
Alcohol Cessation	4 (57.1)	0 (0.0)	4 (44.4)

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

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

	Urban(n=7)	Rural(n=2)	Total(n=9)
Posters	4 (57.1)	0 (0.0)	4 (44.4)
Videos	0 (0.0)	0 (0.0)	0 (0.0)
Pamphlets	2 (28.6)	0 (0.0)	2 (22.2)
Booklets	2 (28.6)	0 (0.0)	2 (22.2)

3.15.4 Availability of Human Resources

Staff	Urban(n=7)	Rural(n=2)	Total(n=9)
Medical Officer (MBBS and above)	7 (100.0)	2 (100.0)	9 (100.0)
Specialist*	6 (85.7)	0 (0.0)	6 (66.7)
Staff Nurse	7 (100.0)	1 (50.0)	8 (88.9)
Lab Technician	7 (100.0)	0 (0.0)	7 (77.8)
Radiographer	6 (85.7)	0 (0.0)	6 (66.7)
Medical imaging and therapeutic equipment technicians	5 (71.4)	0 (0.0)	5 (55.6)
Radiation therapy technologist	4 (57.1)	0 (0.0)	4 (44.4)
Counselor/ dietician/ educator/ care coordinator	2 (28.6)	0 (0.0)	2 (22.2)
Others	6 (85.7)	2 (100.0)	8 (88.9)

*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=7)	Rural(n=2)	Total(n=9)
HPV Vaccination	2 (28.6)	0 (0.0)	2 (22.2)
General surgical procedures	7 (100.0)	0 (0.0)	7 (77.8)
Laparoscopic procedures	6 (85.7)	0 (0.0)	6 (66.7)
Radiotherapy	2 (28.6)	0 (0.0)	2 (22.2)
Chemotherapy	3 (42.9)	0 (0.0)	3 (33.3)
Palliative care	1 (14.3)	0 (0.0)	1(11.1)

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

	Urban(n=7)	Rural(n=2)	Total(n=9)
Laboratory and other investigations¹			
Routine blood investigations ²	7 (100.0)	0 (0.0)	7 (77.8)
General pathology ³	4 (57.1)	0 (0.0)	4 (44.4)
Biochemistry ⁴	7 (100.0)	1 (50.0)	8 (88.9)
Cardiac investigations ⁵	7 (100.0)	0 (0.0)	7 (77.8)
Radiology ⁶	7 (100.0)	0 (0.0)	7 (77.8)
Nuclear Imaging ⁷	0 (0.0)	0 (0.0)	0 (0.0)
Endoscopy ⁸	6 (85.7)	0 (0.0)	6 (66.7)
Cancer	1 (14.3)	0 (0.0)	1 (11.1)
Available Technology			
Essential ⁹	4 (57.1)	0 (0.0)	4 (44.4)
Imaging ¹⁰	4 (57.1)	0 (0.0)	4 (44.4)
Cardiopulmonary ¹¹	0 (0.0)	0 (0.0)	0 (0.0)
Dental ¹²	4 (57.1)	0 (0.0)	4 (44.4)
Laboratory ¹³	3 (42.9)	0 (0.0)	3 (33.3)

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 Xray, 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 Xray 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, Adultambu bag, Cardiac monitor and Defibrillator.
 12. Includes dental Mirror and Dental Chair.
 13. Includes at least one of each Centrifuge, Glucometer, Haemoglobinmeter, and Biochemical analyser, Lancets, Glucostrips, Urinestrips, Microscope and Reagents/kits for Glucose testing.

C. 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	4	1	2	3	5

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

	Urban (n=4)	Rural (n=1)	Male (n=2)	Female (n=3)	Combined (n=5)
Age at diagnosis	36.2	44.9	30.1	43.2	38.0
Duration of cancer*	49.5	6.0	66.0	24.0	40.8

*months

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

Among the respondents surveyed 20% had associated cancer of the mouth, and 20% showed associated cancer sites of the gallbladder.

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 (n=4)	Rural (n=1)	Male (n=2)	Female (n=3)	Combined (n=5)
Type of health facility/ healthcare provider					
Within the state	2 (50.0)	0 (0.0)	0 (0.0)	2 (66.7)	2 (40.0)
Outside the state*	2 (50.0)	1 (100.0)	2 (100.0)	1 (33.3)	3 (60.0)
Govt facility	4 (100.0)	0 (0.0)	1 (50.0)	3 (100.0)	4 (80.0)
Private facility**	1 (25.0)	1 (100.0)	1 (50.0)	1 (33.3)	2 (40.0)

*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 (n=4)	Rural (n=1)	Male (n=2)	Female (n=3)	Combined (n=5)
Self-Financing/ Taking loan/ Sale of assets	2 (50.0)	1 (100.0)	2 (100.0)	1 (33.3)	3 (60.0)
Family support	2 (50.0)	0 (0.0)	0 (0.0)	2 (66.7)	2 (40.0)
Health Insurance Schemes/ Hospital Incentives	2 (50.0)	0 (0.0)	0 (0.0)	2 (66.7)	2 (40.0)

Key Findings

I. Behavioural risk factors

Tobacco use

- The prevalence of current tobacco use (smoked or smokeless) was 36.1%. The prevalence of smokeless tobacco use (24%) was higher than smoked tobacco use (19.1%).
- Over a quarter (28.7%) of current tobacco users (smoked or smokeless) were daily users.
- The mean age at initiation of use was 18.3 years.
- The average duration of tobacco use among past smokers was 14.8 years.
- Only 22.7 % of the smoked tobacco users had made self-attempts to quit smoking, while only 3.3% had been advised to quit tobacco use by doctor/health worker

Exposure to second hand smoke

- Over half of the respondents (57.9%) 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

- As many as 12.6% 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 arecanut (7.6%) was highest among current users.

Alcohol use

- Over one third of the respondents (36.7%) had consumed alcohol over the past 12 months, while over a quarter (27.4%) had consumed alcohol over the past 30 days.
- The mean age of initiation of alcohol use was 17.7 years.
- Among those who consumed alcohol in the past 12 months, 9.6% were daily users and 3.5 % felt the need for a drink first thing in the morning every day.
- 11.5 % of the respondents engaged in heavy episodic drinking

- Only 2.2% of the respondents had been advised to quit alcohol use by doctor/health worker

Diet

- The average number of days of fruit intake was 1.5 per week
- The average number of servings of fruits and vegetables was 2.3 per day.

- Over 80 % of the respondents consumed preserved/salt curated and fermented products.
- Over 90% 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 31.8% in males and 21.8% in females. It was found to be slightly higher in adults from rural than in urban region
- Over half of the respondents (55.8%) were pre-hypertensive.

III Overweight/Obesity

- According to WHO cut off values, 15.6% of the respondents were overweight, while 2.9 % were obese.
- The prevalence of obesity was higher in males (3.1%) than females (2.6%).
- Over half of the respondents had central obesity (52.5 %)

IV Raised blood glucose

- The prevalence of raised fasting blood glucose was 2.2%.

V Clustering of risk factors

- Close to a fifth (19.6%) of respondents had a clustering of ≥ 3 risk factors

VI Health seeking behaviour

- As many as 43.4% of respondents had never had their blood pressure ever measured in life.
- Among those with raised blood pressure, only 18.6% had their blood pressure under control.

VII Cancer screening

- Only 5.6% of the respondents were aware of cancer screening for the three common cancers: Oral, breast and cervical cancer. Less than 1% had ever undergone screening for these cancers.

VIII: Health system response:

- Less than 6% of the surveyed PHCs' provided cancer screening services.
- Less than a quarter of the PHCs' had availability of counselling facilities for risk behaviour through counsellor or specialised personnel

- A little over 10% of the Medical Officers positioned at the PHCs' Proportion had been trained for NPCDCS/NHM (NCD related)/State program.
- Over 80% of the PHCs' reported to shortage of lab facilities for cancer detection.
- None of the CHCs' or District Hospitals provided cancer screening services.
- Physicians were available only in a little over a quarter of the CHCs'. Gynaecologists were available in only about 50%of the CHCs' and district hospitals.
- Around 22.2% of the private secondary health facilities that were surveyed provided cancer screening, and close to half (44.4%) had cancer treatment facilities. However, only 11.1% of the facilities had supply equipment for VIA.
- HPV vaccination was provided by 13.3% of the CHCs' and 22.2% of the private health facilities.

Recommendations

This report gives a detailed current health system scenario in Arunachal Pradesh. This survey conducted among the PBCR covered areas of Arunachal Pradesh helps re-iterate the need for cancer awareness and strengthen the health care system to provide its treatment. The recommendations hence can be described under the following topics:

Risk Reduction:

Risk factors like tobacco & alcohol use, physical inactivity, and unhealthy diet start as young as early adolescence. Measures for behavioural change and awareness creation become crucial in such stages. Efforts to provide information and awareness generation for the younger population and their caretakers should be implemented at educational Institutions and workplaces. IEC & BCC provision among the teachers and faculty of the institution should be strengthened for implementing changes and guidance among the younger population. Counselling providers should be made available in schools, colleges and hospitals to help in cessation programmes of tobacco & alcohol use and provide a healthy diet and lifestyle change guidance. Such provisions should also be strengthened among the HWC of sub-centres and PHCs for easier access.

Tobacco and Alcohol Cessation:

The prevalence of tobacco use is 36.1% in the State of Arunachal Pradesh, with 30% of the current tobacco users being consumers daily. The programmes that help in the cessation of tobacco & alcohol use should be catered at the level of PHC & CHC, which will cover comparatively a larger population. Given the mean age of initiation of tobacco use as 18.3 years in the State, more focus should be given to the reduction among early adolescent population and guide in follow up process.

Policy Implementation for Risk Factor Control:

Strengthening the existing healthcare policies like COTPA Act (2003) which promotes smoke-free indoor air, should be enforced at work places, leisure zones and educational Institutions. The provision of alternative livelihood for those who practise indigenous methods of producing alcohol should be considered. This may help to reduce the availability of locally available alcohol products.

The Government of Arunachal Pradesh must take an appropriate policy decision to contain the tobacco sale and use in the State. COPTA Act (2003) must be implemented in letter and spirit.

Similarly, there must be some policy for curbing excessive alcoholism affecting the population of the State, especially the younger population.

Early detection and Screening:

Conducting periodic surveillance of behavioural and metabolic risk factors to measure the baseline prevalence and monitor changing trends through regular surveys would help track the impact of preventive measures. To enforce screening practices among a larger population, the regional & community leaders, along with the help of peripheral healthcare workers can be used. Practising Village/urban nutrition day and sanitation day will help achieve community participation. Through such measures, social and cultural acceptance of health practices can be achieved.

Health System Strengthening:

Expanding the availability of cancer care services with consideration of access in such geographical terrains should be prioritised. Also, it facilitates the adoption of health technology for the prevention and treatment of cancer, including digital tools for early detection and telemedicine for improved access to care in the healthcare system.

Strengthening the medical certification of cause of death for the availability of accurate and complete cancer mortality should be given utmost importance. As there is a shortage of healthcare workers, increasing the capacity building of healthcare providers through regular training, re-training and skill enhancement should be done. Also, expanding and strengthening the services at secondary and tertiary level health facilities would help reduce treatment-seeking for cancer outside of the region. The Government ought to

consider having proper secondary level facilities in all the districts of the State so that people are not denied proper health care access considering the topography and terrain of the State.

Cancer Registries of the State, which generate good data on cancer incidence, survival, and mortality in the State, need to be supported by the Government. Given the high incidence of cancer cases, the State should have at least two full-fledged cancer hospitals. Facilities for early detection and diagnosis of cancer should be available in all secondary and tertiary health facilities.

As described in detail above, addressing cancer control requires a multidisciplinary approach with community participation. As the data proves, cancer does not appear to be a stigma; therefore, interventions to enhance the health-seeking behaviour related to screening and early detection should be implemented with rigour. This involves measures to strengthen prevention to palliation to provide the continuum of care required in this need of the hour.

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Photographs of the Survey

