

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

2022



TRIPURA

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Jitendra Kumar Sinha, IAS



Principal Secretary to
Government of Tripura
Health & Family Welfare Department
New Secretariat
West Tripura, Agartala-799010

26th April, 2022.

MESSAGE

I am pleased to know that Monitoring Survey of Cancer Risk Factors and Health System Response in Northeast Region (NER) supervised and monitored through NCDIR, Bengaluru is going to publish their report to address the growing burden of cancer and strengthen the existing health system to address this concern.

2. The published data of this Survey Report (2019-2020) of Tripura provides the concrete data for Cancer in the North Eastern States like Tripura.

3. I would like to thank the National Centre for Disease Informatics and Research - ICMR for Monitoring and Supporting the Cancer Registry of Atal Bihari Vajpayee Regional Cancer Centre for developing the skills, knowledge and research activities in Cancer and other NCDs among the Registry staff and other medicos of Tertiary Cancer Care Centre of Tripura.

4. I would like to congratulate Dr. Gautam Majumdar and his team for the excellent job which I assure shall be used by the State Health authority for further planning and its activities.


(J. K. Sinha)

(J. K. Sinha)
Principal Secretary
Health & F. W. Departments
Government of Tripura.



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 Tripura. 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 Tripura, implemented through PBCR Tripura situated at Cancer Hospital, Regional Cancer Centre, Agartala.

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

MESSAGE FROM HEAD OF INSTITUTION

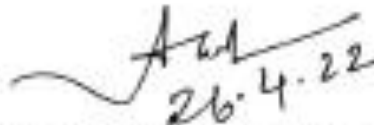
I take this opportunity to thank ICMR-NCDIR for having faith and considering me as the Principal Investigator for the project entitled 'Monitoring Survey of Cancer Risk Factors and Health System Response in Northeastern Region of India' (The CaRes NER programme) for Tripura PBCR.

I am pleased to present the state wise report on this project. This report is prepared by the combined effort of ICMR-NCDIR and Atal Bihari Vajpayee Regional Cancer Centre, Agartala.

This report will give insights about the prevailing risk factors associated with cancer, other NCDs and health system response indicators in the state of Tripura.

I hope that the report will enable the policymakers and stakeholders at making best decisions to address cancer prevention and control in the state.

I would like to express my sincere gratitude to all those who have directly and indirectly participated in the successful completion of this effort.


Dr Gautam Majumdar
Principal Investigator
The Cares NER project
ABV Regional Cancer Centre

ACKNOWLEDGEMENT

The state wise report of 'Monitoring survey of cancer risk factors and health system response in the North eastern region of India' is a concerted outcome of efforts made by experts of ICMR-NCDIR, cancer registry and the survey staffs of Atal Bihari Vajpayee Regional Cancer Centre, Agartala.

It is an immense pleasure to acknowledge the dedication and determination of each member who worked tirelessly during the entire period of data collection, data analyzation and completion of the report.

I would like to thank all the study respondents whose data are included in the report.

I would like to take the opportunity to thank Dr Prashant Mathur, Director NCDIR, Dr Anitha Nath, Scientist-E, Nodal officer and all other technical and supporting staffs of NCDIR for guiding and supporting us continuously during the entire data collection period.

I am grateful to Dr K R Thanakappan for undertaking supervisory visit and providing his guidance during the data collection period.

I would like to thank the State Health Authority for granting us permission for surveying the health facilities.

I would like to thank Directorate of Census Operations, Tripura for providing census maps for identifying PSUs.

The valuable contribution of administrative and finance staffs at Atal Bihari Vajpayee Regional Cancer Centre is duly acknowledged.



Dr Gautam Majumdar
Principal Investigator
The CaRes NER project
ABV Regional Cancer Centre, Agartala

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 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 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 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 Tripura.

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 Tripura.
- To link or correlate risk factors with cancer incidence and burden collected by the PBCR in the Tripura state.

Key findings

- The proportion of solid fuel use was high in rural areas (72.9%). More than two third of the rural population (72.8%) used wood as cooking fuel. About 70.9% of the rural population used 'open stove' or 'chulha' for cooking.
- Over 52.8% of the total population were current tobacco users, comprising 60.2% men and 45% women. A little more than 20% of men were current users of smoked tobacco.
- 11.7% of the respondents reported to have consumed alcohol over the past 12 months and 5.9% reported alcohol use within the past month.
- The mean number of days on which either fruits or vegetables were consumed was 6.2 days in a week.
- According to the WHO criteria, the proportion of those who were obese was 3.5%, while the prevalence of obesity was higher (24.4%) using Asian cut off points.
- The prevalence of raised blood pressure was 23.8%, of which the proportion of newly detected (10.6%) was lesser than previously known (13.2%).
- The proportion of respondents whose blood glucose level was over 126 mg/dl was 6.9%, among whom the proportion of known diabetics was 5.5%.
- Nearly 19% of the cancer patients had sought health care outside of their state, the majority (75%) were availing of treatment at a government health facility.
- Over a third (38.2%) of the cancer patients were self-financing their treatment; 4.4% were covered by health insurance.
- Cancer screening for all three types of cancers (cervical, breast, oral) was available in 31% of the PHCs, 53.6% of the CHCs and 66.7% of the District hospitals.
- A few CHCs had a specialist in position in the following departments: medicine (57.1 %), surgery (17.9%) and gynaecology (32.1%).
- Nearly 75% 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 PHCs, CHCs and District hospitals.
- None 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, the 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 Tripura is located in Regional Cancer Centre, Agartala. The data analysed from these PBCRs helps not only to study the cancer pattern of the population of a defined region, but also helps with time trend analysis of predominant cancers in the state. This in turn leads to formulation of prevention and control strategies for cancers prevalent in the region.

Sociodemographic profile of Tripura		
	Population	Literacy Rate (%)
Males	1874376	91.5
Females	1799541	82.7
Total	3673917	87.2

Source^[1]

PBCR Coverage – Tripura	
PBCR name	Tripura
PBCR location	Regional Cancer Centre, Agartala
Coverage area	Tripura state
Year of establishment	2010
Number of sources of registration	30
Area (in Sq. km)	10492
Coverage of urban and rural area (%)	26.2 & 73.8

Profile of cancer in Tripura^[2]

Cancer is among the top five leading causes of death in the state ^[3] In Tripura, the leading site of cancer was of the lung (16.8%) among males, followed by Oesophageal cancer (7.7%) and cancer of larynx (6.7%). Among Females, the presence of cervix uteri is the highest (16.5%) followed breast (14.4%) and cancer of the gallbladder (9.5%) Tobacco use related cancer sites were seen as high as a little over 50% among males and close to 21% among the females.

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

Gender	Number of New Cancer Cases	AAR
Males	6559	80.9
Females	4914	58.3

Table 1.2 Probability of one in number of Persons developing any type of leading cancer in 0-74 years' age in Males & Females, Tripura.

Sl. No	PBCR Tripura			
	Males		Females	
	Type of Cancer	Probability	Type of Cancer	Probability
1.	Lung	1 in 54	Cervix Uteri	1 in 94
2.	Oesophagus	1 in 125	Breast	1 in 123
3.	Larynx	1 in 147	Gallbladder	1 in 142
4.	Stomach	1 in 157	Mouth	1 in 254
5.	Mouth	1 in 178	Ovary	1 in 297

1.3 Availability of Health Services related to Cancer Care in Tripura 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 Tripura. 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)	999
Health and Wellness Centre - Sub Centre (HWC-SC)	40
Primary Health Centres (PHC)	116
Health and Wellness Centre - Primary Health Centre (HWC-PHC)	31
Community Health Centres (CHC)	22
Sub-district Hospitals (SDH)	12
District Hospitals (DH)	07
Number of government allopathic doctors and dental surgeons	1011
B. Tertiary health care facilities	
Medical Colleges ^[7]	02
State Cancer Institute ^[8]	01
Tertiary cancer care centre ^[8]	00
Regional cancer care centre ^[9]	01
C. State government health scheme ^[10]	Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana

1.4 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.

1.5 Objectives

1.5.1 Primary objective

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

1.5.2 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 Tripura.

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 Tripura with 100% coverage 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)
Tripura PBCR	Tripura PBCR	Tripura	3673917	2444294	2444294	2444294	100	2880
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 ^[11,12].

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 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, hands-on and mock field drills were undertaken for the research team during the 3-day training program from 20th -22th of November, 2019 at Regional Cancer Centre, Agartala.

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.

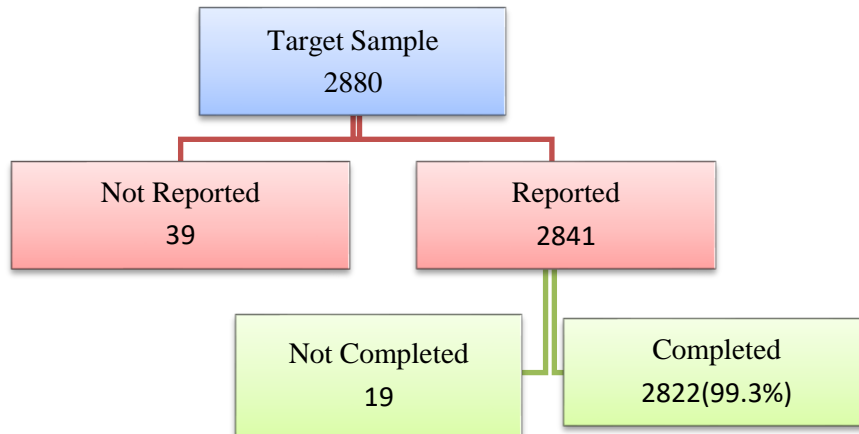
The data from all PSUs' were compiled and cleaned, following which weighting procedures were followed for adjusting for sampling and population proportions and response rates. The detailed statistical analysis plan was prepared based on the identified indicators and subgroups. The data analysis was done 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

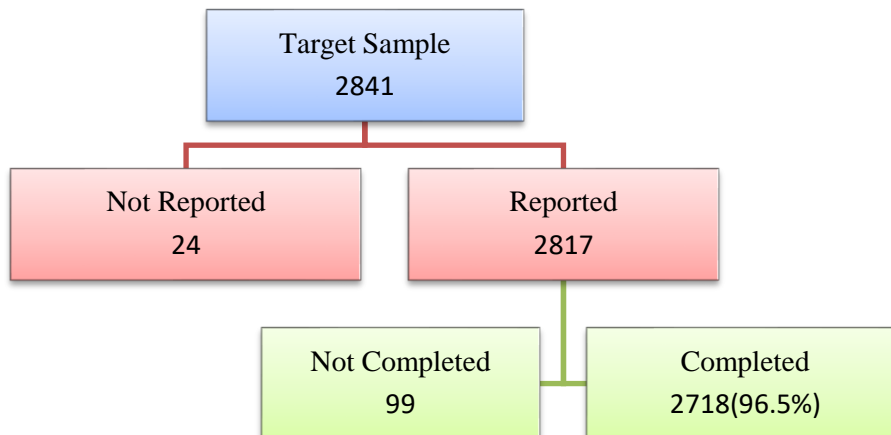
Tripura PBCR received its institutional ethical clearance from its institutional ethics committee [F.4 (5-234/AGMC/Academic/IEC meeting/2020/3703)]. The survey received ethical clearance from the Ethics review committee of the CCA, ICMR – NCDIR (NCDIR/IEC/2017/2).

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

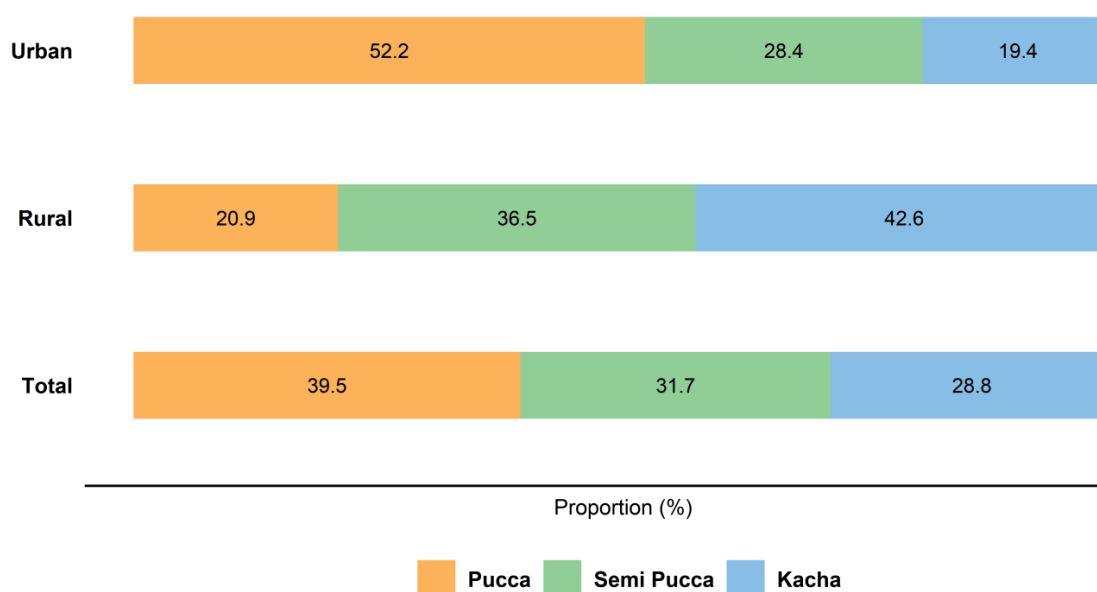
	Urban	Rural	Combined
Median (IQR*)	4(2)	4(2)	4(2)

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*



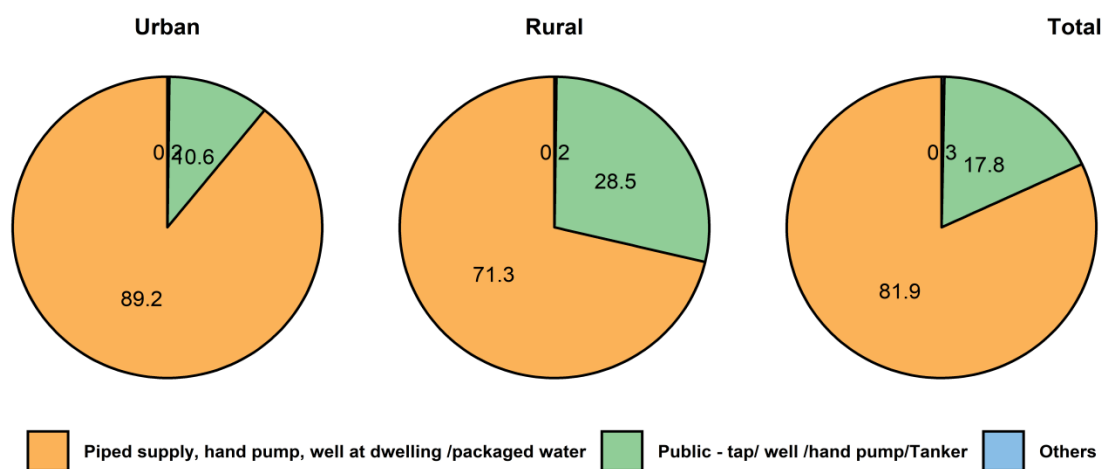
* **Type of house** is defined based on roof, floor and walls.

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.

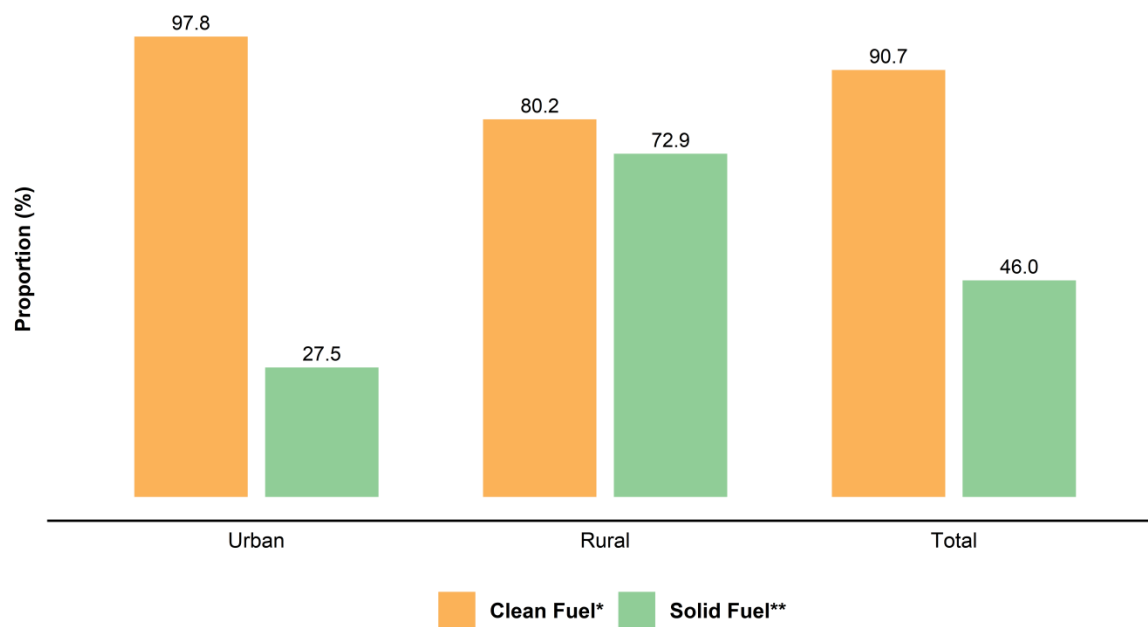
Kutcha House: The walls and/or roof are made of material other than those mentioned above, such as unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc.

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)

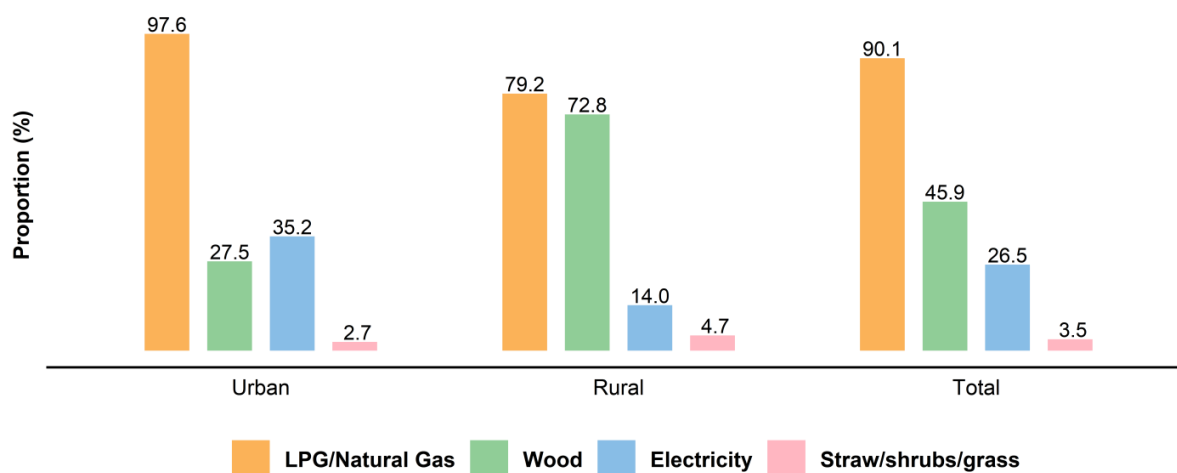
3.1.3 (a) Type of fuel



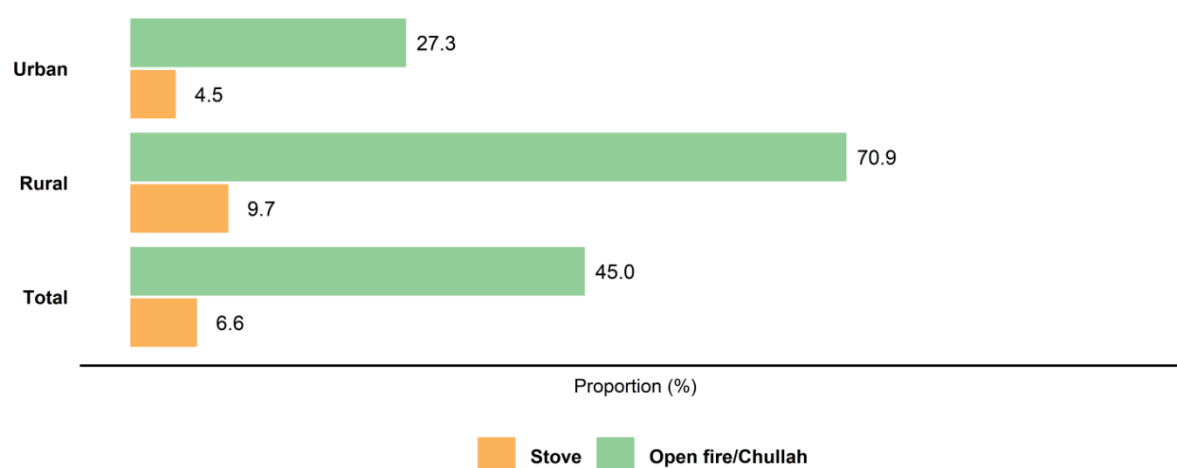
*Clean fuel: Electricity, LPG/Natural Gas, Biogas

**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 households using solid fuels



3.2 Awareness and Attitudes Towards Cancer (%)

Nearly all (99.6%) of the respondents conceded that they never felt ashamed or hesitant to talk about a cancer case in the household. Only 0.9% of the households were aware about the Human Papilloma Virus (HPV) vaccine

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=693)	Rural(N=2025)	Combined(N=2718)
Percentage of households with diagnosed cancer cases			
Percentage – alive	19 (2.7)	51 (2.5)	70 (2.6)
Percentage – deceased	56 (8.1)	49 (2.4)	105 (3.9)

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 were alive during the survey*	(N=19)	(N=51)	(N=38)	(N=32)	(N=70)
< 6 months	1 (5.2)	4 (7.8)	3 (7.9)	2 (6.3)	5 (7.2)
6-12 months	1 (5.3)	3 (5.9)	3 (7.9)	1 (3.1)	4 (5.7)
13– 24months	3 (15.8)	15 (29.4)	10 (26.3)	8 (25.0)	18 (25.7)
> 24 months	14 (73.7)	29 (56.9)	22 (57.9)	21 (65.6)	43 (61.4)
Don't know	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Duration between diagnosis and death of the patient *	(N=57)	(N=52)	(N=51)	(N=54)	(N=105)
< 6 months	14 (24.6)	23 (44.2)	19 (37.2)	18 (33.3)	37 (35.2)
6-12 months	2 (3.5)	2 (3.9)	1 (2.0)	3 (5.6)	4 (3.8)
13– 24months	19 (33.3)	14 (26.9)	14 (27.5)	16 (29.6)	30 (28.6)
> 24 months	14 (24.6)	13 (25.0)	12 (23.5)	14 (25.9)	26 (24.8)
Don't know	8 (14.0)	0 (0.0)	5 (9.8)	3 (5.6)	8 (7.6)

*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)	138.0	51.5	74.9
Average duration of cancer (deceased)	28.1	21.2	24.7
Average duration of cancer (alive/deceased)	58.8	36.2	45.7

*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	65.2	70.8	67.0	67.5	67.3
45 –69	29.8	24.2	28.4	27.1	27.7
70 and above	5.0	5.0	4.6	5.4	5.0
Marital Status					
Never married	15.1	11.7	19.6	7.9	13.8
Currently married/ cohabiting	78.1	83.5	79.5	80.7	80.1
Separated/Not living together/ Divorced	0.3	0.04	0.1	0.2	0.2
Widowed	6.5	4.8	0.8	11.2	5.9
Highest level of Education					
Less than class 6	11.6	22.5	12.3	19.1	15.6
Class 6 to 10	50.6	59.7	50.7	57.3	53.9
Class 11 or 12	16.7	11.9	15.9	13.9	14.9
Graduation or diploma completed	16.7	5.2	16.4	8.4	12.5
Post-graduation	4.4	0.7	4.7	1.3	3.1
No response	0.0	0.0	0.0	0.0	0.0
Occupation					
Professional	9.3	4.1	11.4	3.2	7.4
Medium or large Business	10.5	4.3	15.7	0.3	8.2
Middle / Senior Executive/officer in organization	1.7	0.1	2.0	0.2	1.1
Agricultural land owner	0.7	6.2	5.2	0.01	2.7
Sales and Marketing executives/Clerical	1.4	0.7	2.2	0.1	1.2
Self-employed and small business	15.6	9.0	23.2	2.7	13.2
Skilled manual labourer	5.4	8.7	12.5	0.5	6.6
Unskilled manual/agricultural labourer	1.0	11.9	8.7	1.2	5.1
Student	5.2	5.8	6.3	4.5	5.4
Homemaker	39.8	42.5	0.5	83.0	40.7
Retired	4.0	1.9	5.9	0.4	3.2
Unemployed (able to work)	4.4	3.9	5.3	3.1	4.2
Unemployed(unable to work)	1.0	0.7	1.0	0.8	0.9
No response	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.2	0.1	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	90.5	81.3	87.1	87.2	87.1
Islam	8.2	4.5	6.7	6.9	6.8
Christian	0.9	11.7	5.0	4.7	4.9
Sikhism	0.0	0.0	0.0	0.0	0.0
Buddhism	0.4	2.5	1.2	1.2	1.2
Jainism	0.0	0.0	0.0	0.0	0.0
None	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0
Social Group					
General	45.9	14.5	35.9	32.7	34.3
OBC	25.1	19.8	23.1	23.2	23.1
SC	21.1	18.3	18.5	21.8	20.1
ST	7.4	46.3	21.8	21.6	21.8
Others	0.5	1.1	0.7	0.7	0.7

3.5 Obstetric History of Adult Females

	Urban	Rural	Total
Ever Pregnant (%)	82.5	89.6	85.1
Age at first Pregnancy (%)			
<18 Years	9.1	8.6	8.9
18 – 29 Years	83.7	89.6	86.0
≥ 30 Years	7.2	1.8	5.1
Average age at first pregnancy*(in years)	22	21	22
Gravida*#	1.9	2.0	1.9
Ever breast fed	99.6	99.2	99.5
Never breast fed	0.4	0.8	0.5
Mean/Median duration(in months) of breastfeeding among ever pregnant women@	44.2	56.1	48.8

*Values are expressed as Mean;

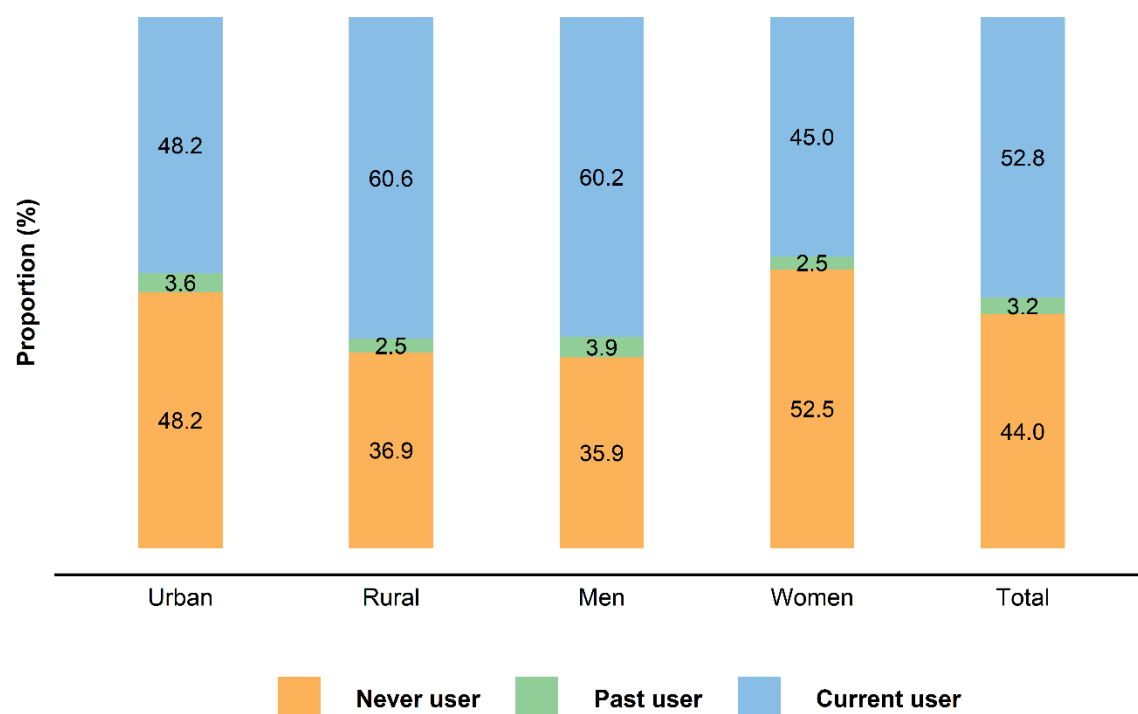
#Includes total number of confirmed pregnancies that a woman has had (includes abortion, still births or live births)

@Combined breastfeeding 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*	76.1	74.1	53.1	98.7	75.4
Past user**	2.8	1.7	4.7	0.0	2.4
Current user***	21.1	24.2	42.2	1.3	22.2

*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	60.1	48.6	58.6	53.0	55.9
Past user	3.2	2.6	3.3	2.6	2.9
Current user	36.7	48.8	38.1	44.4	41.2

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	11.5	11.8	22.1	0.6	11.6
Only Smokeless Tobacco	27.1	36.4	18.0	43.7	30.6
Both Smoked and Smokeless Tobacco	9.6	12.4	20.1	0.7	10.6
Either Smoked or Smokeless Tobacco	48.2	60.6	60.2	45.0	52.8

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

	Urban	Rural	Men	Women	Total
Only Smoked Tobacco	10.4	12.0	21.0	0.6	11.0
Only Smokeless Tobacco	26.8	35.8	20.1	40.6	30.1
Both Smoked and Smokeless Tobacco	5.9	9.9	13.8	0.6	7.4
Either Smoked or Smokeless Tobacco	43.1	57.7	54.9	41.8	48.5

** 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	35.0	67.6	48.1	47.6	48.1
Manufactured Cigarettes	40.0	21.5	33.5	0.0	32.5
Hand-rolled Cigarettes	0.0	0.0	0.0	0.0	0.0
Pipes /Chilam	0.0	0.2	0.0	2.4	0.1
Cigars, Cheroots	0.0	0.0	0.0	0.0	0.0
Hookah/No. of Shisha session	0.0	7.8	1.9	46.0	3.1
Local smoked tobacco products	0.0	0.7	0.3	0.0	0.3
Others	0.0	0.0	0.0	0.0	0.0
Smokeless Tobacco					
Chewing tobacco	36.6	29.1	52.7	16.0	33.4
Pan with Zarda, Betel with Tobacco quid	74.9	74.9	57.9	92.3	76.0
Tuibur, Tobacco Snuff, by mouth	1.5	2.5	3.9	0.2	1.9
Snuff, by nose	0.0	0.1	0.1	0.0	0.0
Others	0.3	0.0	0.4	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*	25.4	25.5	25.0	26.2	25.5
Smoked tobacco	24.8	26.1	25.2	29.6	25.3
Smokeless tobacco	26.1	26.1	26.0	26.2	26.1
Age at cessation					
Any form of tobacco**	46.2	53.3	48.8	46.5	48.2
Smoked tobacco	46.9	54.2	48.8	59.0	48.8
Smokeless tobacco	46.5	53.2	50.3	46.4	48.7

*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)

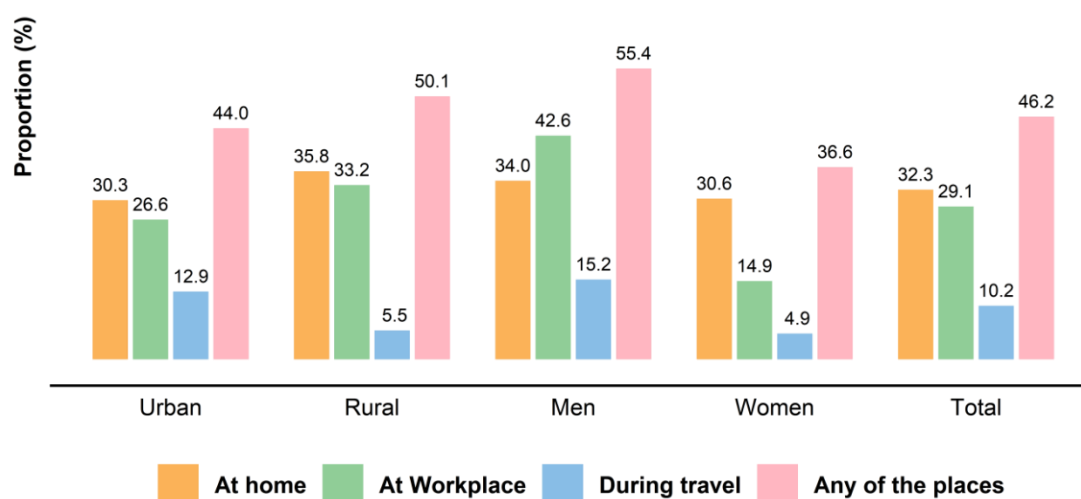
	Urban	Rural	Men	Women	Total
Any form of tobacco	21.7	26.4	24.2	19.6	23.0
Smoked tobacco	24.1	26.7	24.8	39.0	24.8
Smokeless tobacco	20.2	25.4	23.6	19.5	21.9

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)	8.2	6.7	7.8	0.0	7.6
Advised to quit					
Any form of tobacco use	19.3	29.4	30.1	15.6	23.0
Smoked tobacco use	10.5	13.9	21.5	1.5	11.7
Smokeless tobacco use	15.2	23.5	21.5	14.9	18.3

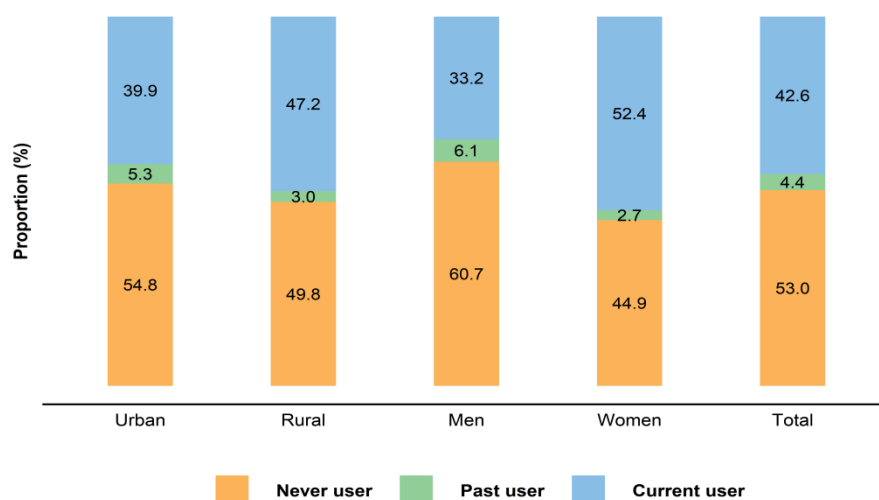
3.6.2 Exposure to Second Hand Smoke

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)



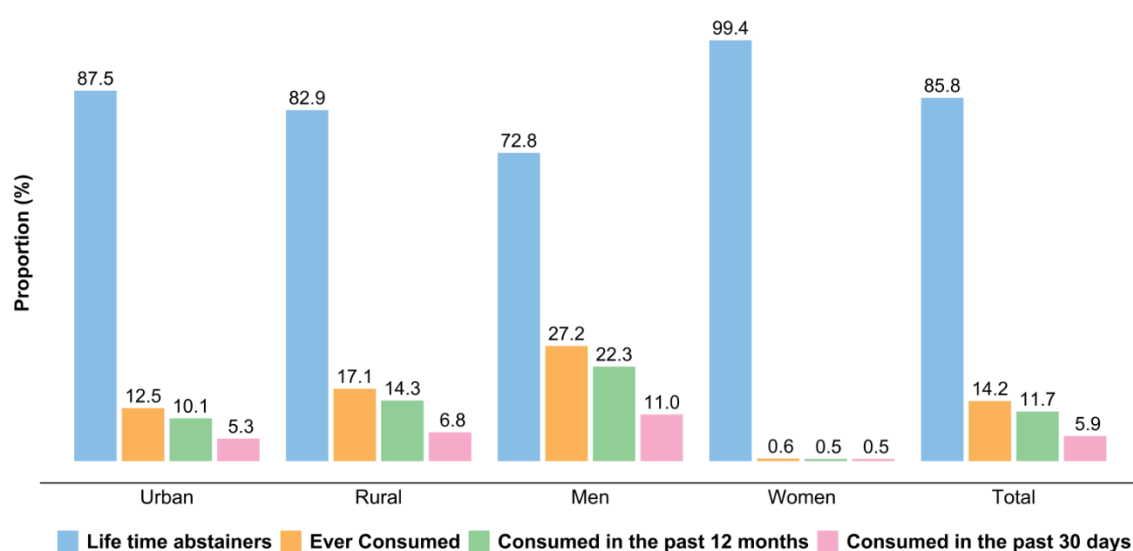
*Includes pan masala, betel quid, areca nut.

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	59.2	52.2	64.3	48.7	56.7
Past user	5.7	2.9	6.6	2.6	4.6
Current user	35.1	44.9	29.1	48.7	38.7
Betel quid					
Never user	69.2	57.2	70.0	59.3	64.8
Past user	3.5	2.7	4.6	1.8	3.2
Current user	27.3	40.1	25.4	38.9	32.0
Areca nut					
Never user	57.3	50.3	62.7	46.3	54.7
Past user	5.8	3.3	6.2	3.5	4.9
Current user	36.9	46.4	31.1	50.2	40.4

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	25.6	27.9	26.6	24.7	26.6

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	46.5	46.3	45.6	84.0	46.4
Daily/ almost daily	1.2	2.4	1.8	0.0	1.7
Weekly	12.2	7.0	9.8	10.6	9.9
Monthly	23.5	16.6	20.7	5.4	20.4
Less than Monthly	16.6	27.7	22.1	0.0	21.6
Failed to do usual routine work due to drinking habit					
Never	80.0	81.1	80.1	100.0	80.5
Daily/ almost daily	0.0	1.1	0.5	0.0	0.5
Weekly	2.5	2.4	2.5	0.0	2.5
Monthly	4.6	2.2	3.6	0.0	3.5
Less than Monthly	11.1	13.3	12.3	0.0	12.1
Need of first drink in the morning					
Never	94.8	96.2	95.4	100.0	95.4
Daily/ almost daily	0.0	0.0	0.0	0.0	0.0
Weekly	0.0	0.9	0.4	0.0	0.4
Monthly	3.4	1.4	2.5	0.0	2.5
Less than Monthly	1.8	1.3	1.6	0.0	1.6

*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	2.2	2.9	4.4	0.5	2.5
45 – 69 Years	1.1	3.8	3.7	0.1	2.0
70 years and above	0.0	0.5	0.4	0.0	0.2
18+ years	1.7	3.0	4.0	0.3	2.2

*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	6.3	9.4	14.2	0.6	7.5
45 – 69 Years	7.4	7.9	13.7	0.7	7.6
70 years and above	6.4	2.0	10.1	0.0	4.8
18+ years	6.6	8.7	13.9	0.6	7.4

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	1.6	1.4	1.5	1.5	1.5
Vegetables	6.1	6.2	6.1	6.2	6.1
Fruits and/or Vegetables*	6.1	6.2	6.1	6.2	6.2
Fruit or Vegetable juice**	0.2	0.0	0.1	0.1	0.1

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	0.3	0.3
Vegetables	2.3	2.3	2.3	2.3	2.3
Fruits and/or Vegetables*	2.7	2.6	2.6	2.7	2.7
Fruit or Vegetable Juice **	0.0	0.0	0.0	0.0	0.0

**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	1.4	1.3	1.4	1.3	1.4
Fish	3.0	2.5	2.9	2.8	2.9
Red Meat	1.1	1.3	1.3	1.3	1.3
Either Birds/Poultry or Fish or Red Meat*	3.1	2.6	2.9	2.9	2.9

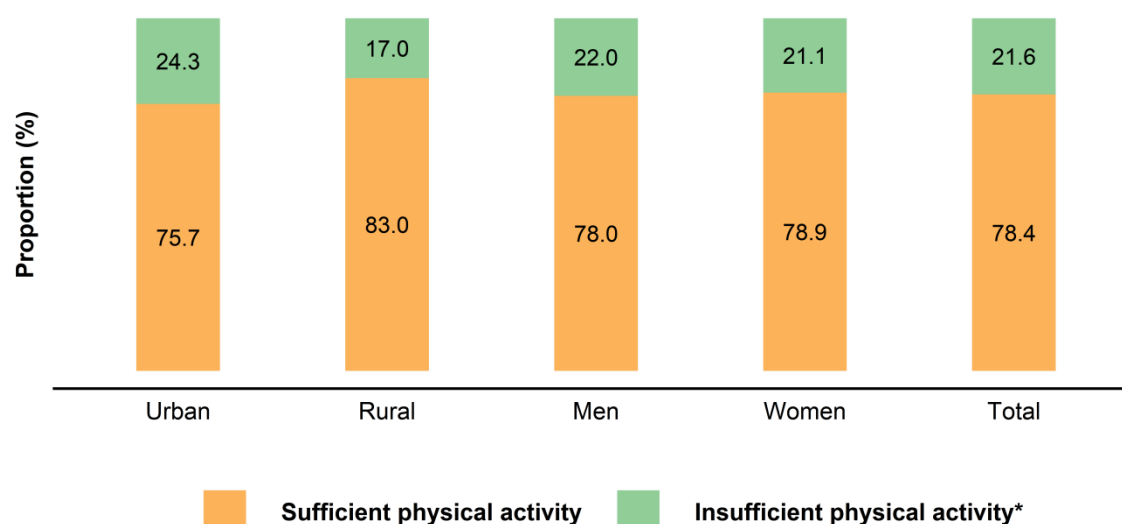
**If an adult consumed more than one meat item, the maximum number of days for any one item was considered*

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	68.4	84.6	74.0	74.8	74.4
Mean number of days of consumption per week	1.3	1.5	1.4	1.5	1.4

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*

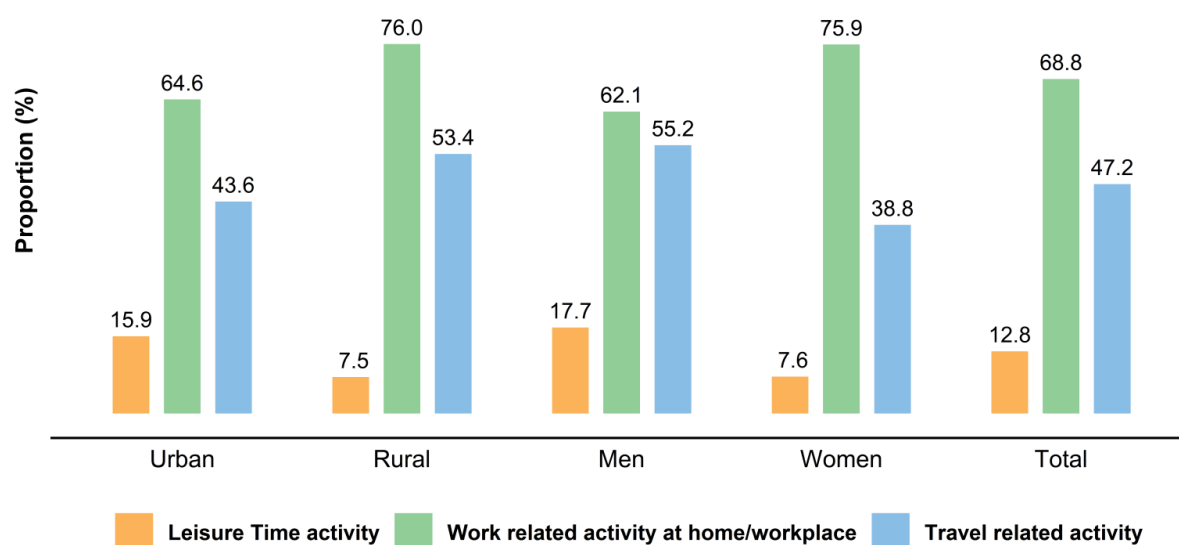
3.6.6.2 Nature of physical activity in which the participants are engaged by place of residence and gender(Percentage)

	Urban	Rural	Men	Women	Total
<i>Routine work at home/workplace</i>					
Vigorous-intensity activity*	16.4	25.7	23.6	15.9	19.8
Moderate intensity activity**	59.9	65.6	50.3	74.4	62.0
<i>Recreational/leisure activities</i>					
Vigorous-intensity activity	2.9	1.2	4.4	0.0	2.3
Moderate intensity activity	14.5	7.1	15.7	7.6	11.7

*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	22.1	13.7	18.2	19.4	18.8
45 – 69 Years	20.6	15.5	22.5	15.1	19.0
70 years and above	18.1	12.6	18.4	13.9	16.1
18+ years	21.4	14.1	19.5	18.0	18.7

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	51.6	78.1	59.2	63.6	61.4

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

	Urban	Rural	Men	Women	Total
<15 Years	1.0	1.4	0.0	2.3	1.2
15 – 19 Years	19.8	27.5	1.8	44.0	23.5
20 -24 Years	28.5	29.7	15.1	42.3	29.1
> 25 Years	50.7	41.4	83.1	11.4	46.2

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

	Urban	Rural	Men	Women	Total
Single sexual partner	73.0	85.5	72.8	82.7	77.6
Multiple sexual partner*	0.3	0.1	0.3	0.2	0.2

*Two or more sexual partners

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

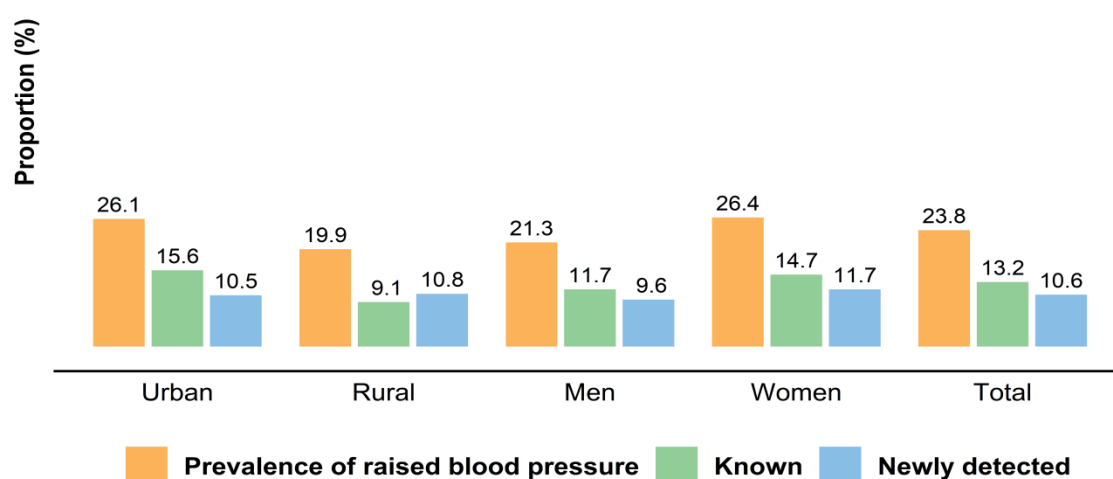
The mean age at first sexual intercourse was 23.9 years, which was lower among women (20.4 years) than men (27.6 years)

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	0.1	0.2	0.0	0.3	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	100.0	100.0	0.0	100.0	100.0
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 \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	21.7	26.3	20.0	27.0	23.4
Pre - Hypertension	57.2	56.8	62.7	51.1	57.0
Hypertension – Stage 1	15.1	12.5	11.2	17.2	14.2
Hypertension – Stage 2	6.0	4.4	6.1	4.7	5.4

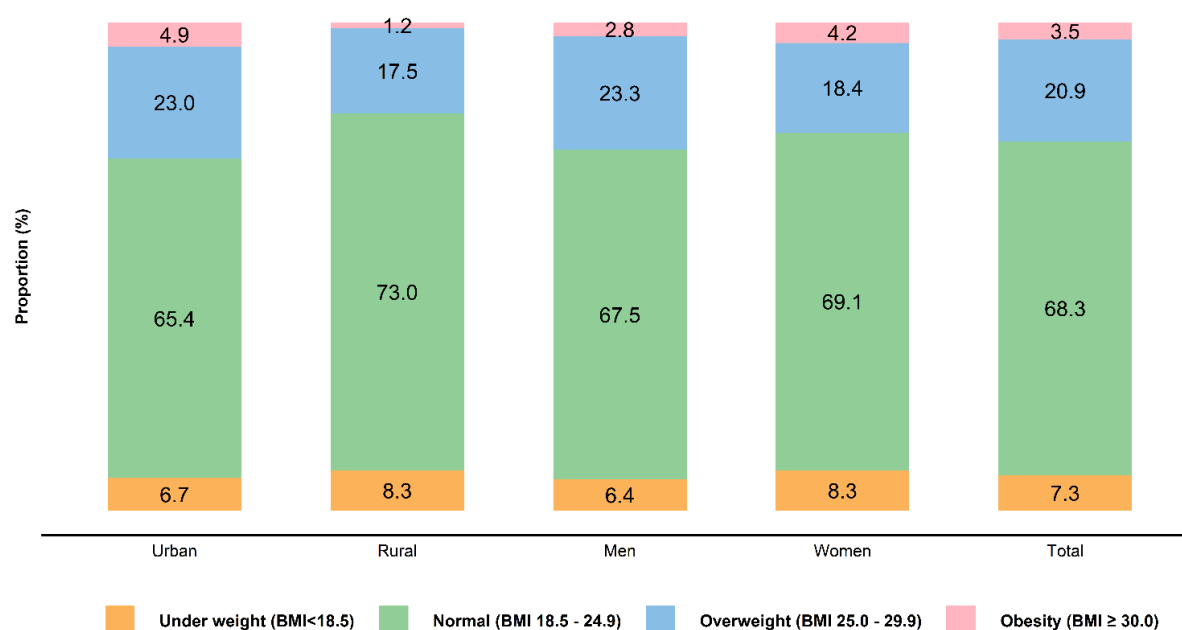
**** Normal-(SBP <120,DBP<80); Pre – hypertension (SBP:120-139,DBP: 80-89);**

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

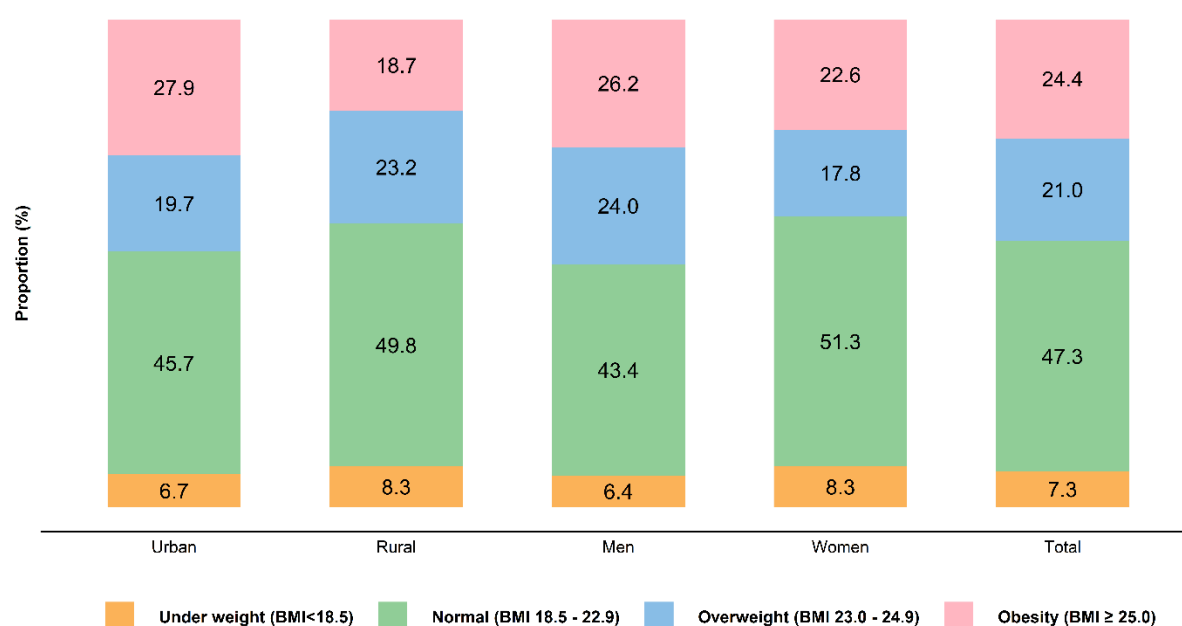
3.8 Physical Measurement

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	27.9	18.7	26.2	22.6	24.4
Obese (BMI ≥30.0) kg/m ²	4.9	1.2	2.8	4.2	3.5

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

	Urban	Rural	Men	Women	Total
18- 44 Years	36.2	22.1	11.7	50.8	30.7
45 – 69 Years	44.8	29.3	23.6	57.4	39.7
70 years and above	27.2	18.5	13.1	34.1	23.9
18+ years	38.3	23.7	15.1	51.7	32.8

* 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	17.8	3.9	13.3	11.4	12.4
45 – 69 Years	18.4	3.0	16.5	10.1	13.4
70 years and above	4.5	2.5	5.0	2.7	3.8
18+ years	17.3	3.6	13.9	10.6	12.2

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	8.6	4.1	7.6	6.2	6.9
Known	6.8	3.2	6.1	4.9	5.5
Newly detected	1.8	0.9	1.5	1.3	1.4

**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	85.6	92.6	88.3	88.2	88.3
100 – 109 mg/dl	5.2	3.2	3.8	5.1	4.4
110 – 125 mg/dl	3.0	1.0	2.2	2.3	2.2
≥ 126 mg/dl	6.2	3.2	5.7	4.4	5.1

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	24.9	24.0	26.0	23.1	24.6
	(20.3-30.2)	(19.9-28.7)	(20.8-32)	(19.0-27.7)	(21.2-28.2)
45 – 69 Years	50.9	48.5	54.7	45.0	50.1
	(44.4-57.3)	(43.5-53.5)	(49.0-60.3)	(38.4-51.9)	(45.4-54.8)
70 years and above	63.5	64.8	60.8	66.9	64.0
	(54.0-72.0)	(53.2-75.0)	(50.3-70.3)	(56.3-76.0)	(56.7-70.7)
18+ years	34.6	32.0	35.8	31.4	33.6
	(30.9-38.5)	(28.2-36.0)	(31.2-40.6)	(28.4-34.5)	(30.9-36.5)

**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	14.7	18.5	20.6	11.4	16.1
Measured ever in life	85.3	81.5	79.4	88.6	83.9
Within past 1 year	67.9	51.4	58.8	64.9	61.8
> 1 year	17.4	30.1	20.6	23.7	22.1

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	89.4	89.8	89.2	89.7	89.5
On treatment*	74.2	82.1	74.6	77.6	76.2
Adherence to treatment**	63.2	60.9	61.7	63.3	62.6
Blood pressure under control ***	33.9	34.5	34.2	33.9	34.0

* 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	33.4	73.6	43.6	47.7	45.7
Private/NGO screening camp/Health facility	66.6	26.4	56.4	52.3	54.3
Current source of consultation for raised blood pressure					
Allopathic doctor from Public sector	30.6	38.2	27.2	37.0	32.5
Allopathic doctor from Private/ NGO health facility	63.3	54.6	66.5	56.5	61.1

*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	81.8	77.6	74.0	86.5	80.2
45 – 69 Years	89.7	86.7	89.3	88.1	88.8
70 years and above	95.8	90.2	92.9	94.5	93.7
18+ years	84.8	80.4	79.2	87.4	83.2

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	41.9	48.7	52.0	36.4	44.4
Measured ever in life	58.1	51.3	48.0	63.6	55.6
Measured in the past					
Within 1year	39.9	20.6	30.0	35.7	32.8
> 1 year	18.2	30.8	18.1	27.9	22.8

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	98.4	88.6	98.0	93.9	96.2
On treatment*	88.8	85.2	87.9	88.1	88.0
Adherence to treatment**	79.1	67.9	74.6	79.4	76.7
Blood glucose under control ***	39.0	30.7	33.4	42.2	37.2

* 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	29.3	56.6	32.3	38.6	35.6
Private/NGO screening camp/Health facility	70.7	43.4	67.7	61.4	64.4
Current consultation for raised blood glucose					
Allopathic doctor from Public sector	33.1	28.7	30.4	34.4	32.2
Allopathic doctor from Private/ NGO health facility	62.1	69.1	63.5	63.8	63.6

**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	50.4	44.1	38.8	57.4	47.9
45 – 69 Years	70.5	62.8	67.7	68.3	68
70 years and above	86.4	65.7	78.3	79.2	78.8
18+ years	58.2	49.7	48.9	61.5	55.1

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	19.0	13.9	19.6	14.7	16.9
30 – 49 Years	15.4	18.4	20.5	11.8	16.5
50- 69 Years	16.4	16.1	20.5	11.7	16.3
70 years and above	5.1	10.8	13.2	1.8	7.2
18+ years	16.0	16.4	20.0	12.1	16.1
Source of information*					
TV/Newspaper/social media	79.1	79.6	82.6	73.5	79.2
Friends/family	50.0	32.6	45.9	39.3	43.5
Health worker	32.9	53.9	38.7	44.4	40.8
Health awareness camps	9.0	2.3	6.8	6.0	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	0.2	0.0	0.2
Breast cancer*	0.0	0.0	0.0
Oral cancer	0.0	0.0	0.0

**Among women more than 30 years of age*

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

	Urban	Rural	Total
VIA	0.0	0.0	0.0
PAP	100.0	0.0	94.8
HPV-DNA	0.0	0.0	0.0
Others	0.0	0.0	0.0

**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)

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

**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	0.3	0.2	0.2	0.2	0.2
Breast Cancer*	0.8	0.7	-	0.7	0.7
Cervical Cancer*	0.8	0.3	-	0.6	0.6

**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=4)	Rural (n =38)	Total(N=42)
Types of services			
Outpatient services	4 (100.0)	38 (100.0)	42 (100.0)
In patient services	1 (25.0)	32 (84.2)	33 (78.6)
Emergency services	3 (75.0)	35 (92.1)	38 (90.5)
Availability of functional telephone facility	0 (0.0)	5 (13.2)	5 (11.9)
Availability of ambulance facility¹	1 (25.0)	35 (92.1)	36 (85.7)
Electricity and functional electricity back up	2 (50.0)	21 (55.3)	23 (54.8)

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

¹Includes 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=4)	Rural (n =38)	Total(N=42)
Written standard treatment guidelines under NPCDCS availability	3 (75.0)	18 (47.4)	21 (50.0)
Cancer screening availability			
Oral Cancer	3 (75.0)	14 (36.8)	17 (40.5)
Cervical Cancer	1 (25.0)	12 (31.6)	13 (31.0)
Breast Cancer	3 (75.0)	14 (36.8)	17 (40.5)
All three cancers	1 (25.0)	12 (31.6)	13 (31.0)
Method of screening cancer			
Organized Screening*	2 (50.0)	4 (10.5)	6 (14.3)
Opportunistic screening**	0 (0.0)	5 (13.2)	5 (11.9)
Place of referral of patients found positive after screening			
CHC	0 (0.0)	2 (5.3)	2 (4.8)
DH	2 (50.0)	11 (28.9)	13 (31.0)
Tertiary Care Hospital	1 (25.0)	1 (2.6)	2 (4.8)
Private Health facility	0 (0.0)	0 (0.0)	0 (0.0)
Availability of Physiotherapy facility	1 (25.0)	1 (2.6)	2 (4.8)

* 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=4)		Rural (n =38)		Total(N=42)	
	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	0 (0.0)	3 (75.0)	13 (34.2)	8 (21.1)	13 (31.0)	11 (26.2)
Dietary Modification	1 (25.0)	1 (25.0)	4 (10.5)	4 (10.5)	5 (11.9)	5 (11.9)
Physical Activity	0 (0.0)	1 (25.0)	4 (10.5)	4 (10.5)	4 (9.5)	5 (11.9)
Alcohol Cessation	1 (25.0)	1 (25.0)	13 (34.2)	6 (15.8)	14 (33.3)	7 (16.7)

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

	Urban (n=4)	Rural (n =38)	Total(N=42)
IEC materials related to Cancer displayed/available in the patient waiting room/outpatient department			
Posters	4 (100.0)	31 (81.6)	35 (83.3)
Videos	1 (25.0)	0 (0.0)	1 (2.4)
Pamphlets	2 (50.0)	17 (44.7)	19 (45.2)
Booklets	3 (75.0)	11 (28.9)	14 (33.3)

3.13.5 - Availability of Human Resources

Availability of Human Resources						
Staff	Urban (n=4)		Rural (n =38)		Total(N=42)	
	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NH M(NCD related)/State program	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NH M(NCD related)/State program	Proportion of facilities reporting the availability of Human Resources	Proportion trained for NPCDCS/NH M(NCD related)/State program
Medical Officer (MBBS)	4 (100.0)	4 (100.0)	38 (100.0)	15 (39.5)	42 (100.0)	19 (45.2)
AYUSH Medical Officer	3 (75.0)	3 (75.0)	23 (60.5)	5 (13.2)	26 (61.9)	8 (19.0)
Staff Nurse	1 (25.0)	0 (0.0)	37 (97.4)	16 (42.1)	38 (90.5)	16 (38.1)
Auxiliary Nurse Midwife (ANM)	1 (25.0)	3 (75.0)	37 (97.4)	6 (15.8)	38 (90.5)	9 (21.4)
Lady Health Visitor/ Female Health Assistant/PHN	1 (25.0)	0 (0.0)	1 (2.6)	0 (0.0)	2 (4.8)	0 (0.0)
Male Health Assistant	0 (0.0)	0 (0.0)	2 (5.3)	0 (0.0)	2 (4.8)	0 (0.0)
Accountant cum data entry operator	4 (100.0)	1 (25.0)	29 (76.3)	11 (28.9)	33 (78.6)	12 (28.6)
Pharmacist	4 (100.0)	1 (25.0)	37 (97.4)	11 (28.9)	41 (97.6)	12 (28.6)
Lab Technician	4 (100.0)	1 (25.0)	35 (92.1)	13 (34.2)	39 (92.9)	14 (33.3)
Health educator	0 (0.0)	0 (0.0)	1 (2.6)	0 (0.0)	1 (2.4)	0 (0.0)
Cold Chain & Vaccine Logistic Assistant	3 (75.0)	1 (25.0)	33 (86.8)	10 (26.3)	36 (85.7)	11 (26.2)

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

3.13.6 Availability of Laboratory procedures and equipment & supplies

	Urban (n=4)	Rural (n =38)	Total(N=42)
Availability of Laboratory ¹			
Routine investigations ²	3 (75.0)	38 (100.0)	41 (97.6)
Cancer screening ³	0 (0.0)	1 (2.6)	1 (2.4)
Equipment & supplies available in stock			
General ⁴	4 (100.0)	38 (100.0)	42 (100.0)
Cancer screening ⁵	2 (50.0)	28 (73.7)	30 (71.4)

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=28)	DH(n=6)
Location		
Rural	19 (67.9)	1 (16.7)
Urban	9 (32.1)	5 (83.3)
Types of services		
Outpatient services	28 (100.0)	6 (100.0)
In patient services	25 (89.3)	6 (100.0)
Emergency services	27 (96.4)	6 (100.0)
Intensive Care Unit(ICU) or Cardiac Care Unit	0 (0.0)	4 (66.7)
Availability of functional Telephone facility	5 (17.9)	2 (33.3)
Availability of ambulance facility¹	28 (100.0)	6 (100.0)
Electricity and Functional electricity back up	26 (92.9)	5 (83.3)

¹Includes 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=28)	DH(n=6)
Written standard treatment guidelines under NPCDCS availability	25 (92.6)	6 (100.0)
Cancer screening availability		
Oral Cancer	16 (57.1)	5 (83.3)
Cervical Cancer	15 (53.6)	4 (66.7)
Breast Cancer	16 (57.1)	5 (83.3)
All three cancers	15 (53.6)	4 (66.7)
Method of detecting cancer		
Organised Screening	6 (21.4)	2 (33.3)
Opportunistic screening	8 (28.6)	5 (83.3)
Management of patients with Cancer		
Fixed days/day in a week	2 (7.1)	1 (16.7)
Seen daily, no dedicated day	11 (39.3)	3 (50.0)
All are referred/Not managed	3 (10.7)	1 (16.7)
Availability of Day care facility for management of cancer patients (for Chemotherapy)	4 (15.4)	0 (0.0)

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

	CHC (n=28)	DH(n=6)
Availability of Counselling facilities for risk behaviour through counsellor or specialised personnel*		
Tobacco cessation	18 (64.3)	5 (83.3)
Dietary Modification	5 (17.9)	3 (50.0)
Physical Activity	5 (17.9)	4 (66.7)
Alcohol Cessation	17 (60.7)	5 (83.3)
IEC materials related to Cancer displayed/available in the patient waiting room/outpatient department		
Posters	28 (100.0)	5 (83.3)
Videos	0 (0.0)	0 (0.0)
Pamphlets	13 (46.4)	5 (83.3)
Booklets	11 (39.3)	1 (16.7)
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=28)		DH(n=6)	
	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	16 (57.1)	11 (39.3)	5 (83.3)	4 (66.7)
Surgery	5 (17.9)	2 (7.1)	4 (66.7)	3 (50.0)
Gynaecology	9 (32.1)	4 (14.3)	6 (100.0)	4 (66.7)
Radiology	8 (28.6)	4 (14.3)	4 (66.7)	2 (33.3)
Pathology	12 (42.9)	6 (21.4)	5 (83.3)	2 (33.3)
General duty Medical Officer	28 (100.0)	21 (75.0)	6 (100.0)	4 (66.7)
AYUSH	18 (64.3)	7 (25.0)	4 (66.7)	1 (16.7)
Paediatrics	7 (25.0)	1 (3.6)	5 (83.3)	3 (50.0)

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

	CHC (n=28)		DH(n=6)	
	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	28 (100.0)	21 (75.0)	6 (100.0)	4 (66.7)
Pharmacist	28 (100.0)	7 (25.0)	6 (100.0)	4 (66.7)
Lab Technician	27 (96.4)	7 (25.0)	6 (100.0)	3 (50.0)
Physiotherapist	6 (21.4)	1 (3.6)	6 (100.0)	2 (33.3)
Radiographer	17 (60.7)	3 (10.7)	5 (83.3)	1 (16.7)
O.T technician	4 (14.3)	0 (0.0)	6 (100.0)	2 (33.3)
Social worker	4 (14.3)	2 (7.1)	3 (50.0)	1 (16.7)
Data Entry Operator	24 (85.7)	8 (28.6)	5 (83.3)	2 (33.3)
Rehabilitation therapist	0 (0.0)	0 (0.0)	2 (33.3)	0 (0.0)
Counsellor	9 (32.1)	5 (17.9)	3 (50.0)	1 (16.7)
Others	23 (82.1)	21 (75.0)	5 (83.3)	5 (83.3)

3.14.6 - Availability of prevention/treatment procedures

	CHC (n=28)	DH(n=6)
HPV Vaccination	0 (0.0)	0 (0.0)
General surgical procedures	6 (21.4)	4 (66.7)
Laparoscopic procedures	1 (3.6)	1 (16.7)
Radiotherapy	2 (7.1)	0 (0.0)
Palliative care	11 (39.3)	2 (33.3)

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

	CHC (n=28)	DH(n=6)
Laboratory and other investigations¹		
Routine blood investigations ²	28 (100.0)	6 (100.0)
Biochemistry ³	28 (100.0)	6 (100.0)
Cardiac investigations ⁴	20 (71.4)	6 (100.0)
Radiology ⁵	21 (75.0)	6 (100.0)
Endoscopy ⁶	0 (0.0)	2 (33.3)
Histopathology	2 (7.1)	2 (33.3)
Cervical cancer screening ⁷	1 (3.6)	3 (50.0)
Available equipment in stock		
Essential ⁸	24 (85.7)	5 (83.3)
Imaging ⁹	1 (3.6)	4 (66.7)
Cardiopulmonary ¹⁰	0 (0.0)	3 (50.0)
Dental ¹¹	25 (89.3)	5 (83.3)
Laboratory ¹²	3 (10.7)	3 (50.0)
Cancer screening ¹³	2 (7.1)	2 (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, 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=4)	Rural(n=0)	Total(n=4)
	Types of services		
Outpatient services	3 (75.0)	0 (0.0)	3 (75.0)
In patient services	4 (100.0)	0 (0.0)	4 (100.0)
Emergency services	3 (75.0)	0 (0.0)	3 (75.0)
Intensive Care Unit	3 (75.0)	0 (0.0)	3 (75.0)
	Cancer screening availability		
Oral Cancer	3 (75.0)	0 (0.0)	3 (75.0)
Cervical Cancer	3 (75.0)	0 (0.0)	3 (75.0)
Breast Cancer	3 (75.0)	0 (0.0)	3 (75.0)
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	2 (50.0)	0 (0.0)	2 (50.0)
Treatment provided for Cancer	1 (25.0)	0 (0.0)	1 (25.0)
Availability of standard treatment guidelines for cancer	3 (75.0)	0 (0.0)	3 (75.0)

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

	Urban(n=4)	Rural(n=0)	Total(n=4)
Availability of Counselling facilities for risk behaviour through counsellor or specialised personnel*			
Tobacco cessation	1 (25.0)	0 (0.0)	1 (25.0)
Dietary Modification	2 (50.0)	0 (0.0)	2 (50.0)
Physical Activity	2 (50.0)	0 (0.0)	2 (50.0)
Alcohol Cessation	1 (25.0)	0 (0.0)	1 (25.0)

*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=4)	Rural(n=0)	Total(n=4)
Posters	1 (25.0)	0 (0.0)	1 (25.0)
Videos	0 (0.0)	0 (0.0)	0 (0.0)
Pamphlets	1 (25.0)	0 (0.0)	1 (25.0)
Booklets	1 (25.0)	0 (0.0)	1 (25.0)

3.15.4 - Availability of Human Resources

Staff	Urban(n=4)	Rural(n=0)	Total(n=4)
Medical Officer (MBBS and above)	4 (100.0)	0 (0.0)	4 (100.0)
Specialist*	2 (50.0)	0 (0.0)	2 (50.0)
Staff Nurse	4 (100.0)	0 (0.0)	4 (100.0)
Lab Technician	4 (100.0)	0 (0.0)	4 (100.0)
Radiographer	4 (100.0)	0 (0.0)	4 (100.0)
Medical imaging and therapeutic equipment technicians	1 (25.0)	0 (0.0)	1 (25.0)
Radiation therapy technologist	0 (0.0)	0 (0.0)	0 (0.0)
Counselor/ dietician/ educator/ care coordinator	2 (50.0)	0 (0.0)	2 (50.0)
Others	4 (100.0)	0 (0.0)	4 (100.0)

*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=4)	Rural(n=0)	Total(n=4)
General surgical procedures	1(25.0)	0 (0.0)	1(25.0)
Laparoscopic procedures	3 (75.0)	0 (0.0)	3 (75.0)
Radiotherapy	3 (75.0)	0 (0.0)	3 (75.0)
Chemotherapy	0 (0.0)	0 (0.0)	0 (0.0)
Palliative care	0 (0.0)	0 (0.0)	0 (0.0)

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

	Urban(n=4)	Rural(n=0)	Total(n=4)
Laboratory and other investigations¹			
Routine blood investigations²	4 (100.0)	0 (0.0)	4 (100.0)
General pathology³	2 (50.0)	0 (0.0)	2 (50.0)
Biochemistry⁴	4 (100.0)	0 (0.0)	4 (100.0)
Cardiac investigations⁵	4 (100.0)	0 (0.0)	4 (100.0)
Radiology⁶	4 (100.0)	0 (0.0)	4 (100.0)
Nuclear Imaging⁷	0 (0.0)	0 (0.0)	0 (0.0)
Endoscopy⁸	3 (75.0)	0 (0.0)	3 (75.0)
Cancer	1 (25.0)	0 (0.0)	1 (25.0)
Available Technology			
Essential⁹	4 (100.0)	0 (0.0)	4 (100.0)
Imaging ¹⁰	2 (50.0)	0 (0.0)	2 (50.0)
Cardiopulmonary¹¹	2 (50.0)	0 (0.0)	2 (50.0)
Dental¹²	2 (50.0)	0 (0.0)	2 (50.0)
Laboratory¹³	2 (50.0)	0 (0.0)	2 (50.0)

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 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	19	49	34	34	68

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

	Urban (19)	Rural (49)	Male (34)	Female (34)	Combined (68)
Age at diagnosis	52.7	52.1	55.6	48.9	52.3
Duration of cancer *	59.4	56.9	52.7	62.5	57.6

*months

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

	Urban (19)	Rural (49)	Male (34)	Female (34)	Combined (68)
Site of Cancer					
Oesophagus	1 (5.3)	2 (4.1)	1 (2.9)	2 (5.9)	3 (4.4)
Lung	1 (5.3)	2 (4.1)	3 (8.8)	0 (0.0)	3 (4.4)
Stomach	0 (0.0)	1 (2.0)	1 (2.9)	0 (0.0)	1 (1.5)
Throat	2 (10.5)	10 (20.4)	9 (26.5)	3 (8.8)	12 (17.6)
Mouth	2 (10.5)	3 (6.1)	3 (8.8)	2 (5.9)	5 (7.4)
Cervix	4 (21.1)	7 (14.3)	0 (0.0)	11 (32.4)	11 (16.2)
Gall bladder	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Breast	5 (26.3)	5 (10.2)	1 (2.9)	9 (26.5)	10 (14.7)

Diagnosed with co-morbidity					
Type of comorbidity					
Tuberculosis	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Kidney failure	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Diabetes Mellitus	1 (5.3)	1 (2.0)	1 (2.9)	1 (2.9)	2 (2.9)
Heart Failure	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Stroke	0 (0.0)	1 (2.0)	1 (2.9)	0 (0.0)	1 (1.5)
Others	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

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 (19)	Rural (49)	Male (34)	Female (34)	Combined (68)
Type of health facility / health care provider					
Within the state	15 (78.9)	36 (81.8)	24 (80.0)	27 (81.8)	51 (81.0)
Outside the state*	4 (21.1)	8 (18.2)	6 (20.0)	6 (18.2)	12 (19.0)
Govt facility	14 (73.7)	37 (75.5)	24 (70.6)	27 (79.4)	51 (75.0)
Private facility**	2 (10.5)	4 (8.2)	2 (5.9)	4 (11.8)	6 (8.8)
Self-healers	3 (15.8)	5 (10.2)	5 (14.7)	3 (8.8)	8 (11.8)
Alternative form of medicine (AYUSH)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)

*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 (19)	Rural (49)	Male (34)	Female (34)	Combined (68)
Self-Financing/Taking loan/Sale of assets	6 (31.6)	20 (40.8)	12 (35.3)	14 (41.2)	26 (38.2)
Family support	7 (36.8)	14 (28.6)	7 (20.6)	14 (41.2)	21 (30.9)
Health Insurance Schemes/Hospital Incentives	0 (0.0)	3 (6.1)	2 (5.9)	1 (2.9)	3 (4.4)

Key Findings

I. *Behavioural risk factors*

Tobacco use

- The prevalence of current tobacco use (smoked or smokeless) was 52.8%. The prevalence of smokeless tobacco use (41.2%) was higher than smoked tobacco use (22.2%).
- Over a quarter (48.5%) of current tobacco users (smoked or smokeless) were daily users.
- The mean age at initiation of use was 25.5 years.
- The average duration of tobacco use among past smokers was 23 years.
- Only 7.6% of the smoked tobacco users had made self-attempts to quit smoking, while only 23.0% had been advised to quit tobacco use by doctor/health worker

Exposure to second hand smoke

- Over half of the respondents (46.2%) 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 42.6% 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 (40.4%) was highest among current users.

Alcohol use

- Nearly 12% had consumed alcohol over the past 12 months, while around 6% had consumed alcohol over the past 30 days.
- The mean age of initiation of alcohol use was 26.6 years.
- Among those who consumed alcohol in the past 12 months, 1.7% were daily users.
- 2.2% of the respondents engaged in heavy episodic drinking
- Only 7.4% of the respondents had been advised to quit alcohol use by doctor/health worker

Diet

- The average number of days of fruit intake was 1.5 per week
- The average number of servings of fruits and vegetables was 2.7 per day.
- Nearly three fourth of the respondents (75%) of the respondents consumed preserved/salt curated and fermented products.
- Over 78% 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 21.3% in males and 26.4% in females. It was found to be slightly higher in adults from urban than in rural region
- Over half of the respondents (57%) were pre-hypertensive.

III Overweight/Obesity

- According to WHO cut off values, 20.9% of the respondents were overweight, while 3.5% were obese.
- The prevalence of obesity was higher in females (4.2%) than males (2.8%).
- A little over 30% of the respondents had central obesity.

IV Raised blood glucose

- The prevalence of raised fasting blood glucose was 6.9%

V Clustering of risk factors

- Around one third of the respondents (33.6%) had a clustering of ≥ 3 risk factors

VI Health seeking behaviour

- As many as 16.1% of respondents had never had their blood pressure ever measured in life.
- Among those with raised blood pressure, around 34% had their blood pressure under control.

VII Cancer screening

- Around 16% 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:

- Around 31% 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 specialized personnel
- A little less than 50% of the Medical Officers positioned at the PHCs' Proportion had been trained for NPCDCS/NHM (NCD related)/State program.

- Over 90% of the PHCs' reported to have lab facilities for cancer detection.
- Around 53% of the CHCs' & 67% of the District Hospitals provided cancer screening services.
- Physicians were available in around 57% of the CHCs' & 83% in District Hospitals. Gynaecologists were available in 32% of the CHCs' of which less than 15% were trained under the NPCDCS program.
- Around 75% of the private secondary health facilities that were surveyed provided cancer screening, and close to quarter (25%) had cancer treatment facilities.
- None of the CHCs or DHs provided HPV vaccination.

Recommendations

1) Cancer prevention:

Prevention of cancer, especially when integrated with prevention of other chronic diseases, offers greatest public health potential and is most cost-effective long term method of cancer control. Almost 40% cancers are preventable.

Common risk factors underlying all these conditions are-

Tobacco use, alcohol use, low dietary intake of fruits and vegetables, physical inactivity, obesity and overweight.

The key findings of the survey suggest prevalence of tobacco use (any form) to be as high as 52.8% including both genders in Tripura.

Exposure to second hand smoke at home, workplace or during travel reported by nearly half of the respondents.

The average number of days of fruit intake was 1.5 in a week.

32.8% of the respondents had central obesity.

The percentage of respondents advised to quit tobacco by doctor/health worker was found to be less.

Counselling facilities for risk behavior through counsellor or specialized personnel was low among the primary health care facility level.

Tobacco control programmes can be strengthened with strategies of sociocultural context of tobacco use. Policies for implementation of prohibition of tobacco use in public and workplaces can be reinforced. Counselling for health risk behavior in primary health care facility level can be made accessible as it will be cover more number of population. Counselling at the household or family level would help since tobacco and alcohol use is influenced by its Use in the family.

Human papilloma virus infection of reproductive tract can lead to cervical cancer in women. Cervical cancer is one of the leading sites of cancer among women in Tripura according to NCRP 2020. It was found that only 0.9% of households were aware about the HPV vaccine which can prevent cervical cancer. Awareness regarding this can largely prevent occurrence of cervical cancer.

2) Early detection of disease:

Early diagnosis of cancer focuses on detecting symptomatic patients as early as possible so they have the best chance for successful treatment. Early diagnosis improves cancer outcomes by providing care at the earliest possible stage and is therefore an important public health strategy in all settings. Screening is a different strategy than early diagnosis. It is defined as the presumptive identification of unrecognized disease in an apparently healthy, asymptomatic population by means of tests, examinations or other procedures that can be applied rapidly and easily to the target population.

Adults who had ever undergone oral/breast/cervical cancer screening was found to be very low in Tripura. Also percentage of respondents who Received advice to screen for cancer by doctor/health worker in the last one year was also low. Cancer screening can be an important strategy which can be undertaken for early detection of disease. Also awareness about early signs and symptoms of the disease can be raised among the population. The community-based platform, i.e., village/ urban health nutrition and sanitation day, could effectively create awareness. Such interventions would help make screening and early detection programmes socially and culturally acceptable.

Sources of information for such screening activities can be health awareness camps and through health workers.

3) Health system strengthening:

Cancer screening activities can be scaled up in primary and secondary health facility level to reduce the burden of higher level health facilities. Since there is a shortage of trained health care providers, there is a pressing need to train the existing staff at the primary and secondary level health centres to ensure timely detection and referral, calling for scaling up of NPCDCS training. This would help to reduce the burden on tertiary cancer-treating centre in the state. Development of more number of private health care facilities for treating cancer can be encouraged for reducing the burden on the public health care facilities.

It has been found from the report that health insurance coverage for financing treatment of cancer was lower than self-financing /family support. Thus out of pocket expenditure has been increased. Policies can be undertaken by public/private sector to broaden the insurance coverage among maximum number population of the state.

Overall it has to be a multidisciplinary approach from various government and public sectors to address cancer burden of the state.

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List of Principal and Co-Principal Investigators

Central Coordinating Agency (CCA) – Indian Council of Medical Research (ICMR) – National Centre for Disease Informatics and Research (NCDIR), Bengaluru	
Principal Investigator	Dr Prashant Mathur, Director, ICMR-NCDIR, Bengaluru
Co-Principal Investigator	Dr Anita Nath, Scientist E (Medical), Nodal officer, ICMR-NCDIR, Bengaluru Dr K Vaitheeswaran, Scientist D (Statistics), ICMR-NCDIR, Bengaluru Mr Vinay Urs K S, Scientist C (Programmer), ICMR-NCDIR, Bengaluru Mrs Thilagavathi, Scientist B (Statistics), ICMR-NCDIR, Bengaluru
Technical support	Mr N. Sureshkumar, Technical Officer (A) Mr Ramesh Velidi, Technical Officer (C)
Project Staff	Dr Mohana B.P Dr Sravya L Dr Prachi Phadke Ms Nifty Tomy Mr Rohith Mohan Ms Nirmala V Ms Sivagami K Mr Arindam Debnath MrThillai Govindarajan Ms Gurpreet Kaur
Coordinating State PBCR Agency (CSA) – Tripura	
Principal Investigator	Dr Gautam Majumdar Medical Superintendent & Head Atal Bihari Vajpayee Regional Cancer Centre, Agartala, Tripura
Co-Principal Investigators	Dr Kunal Chakraborty Assistant Professor Dept of Community Medicine Agartala Govt Medical College Agartala, Tripura
Survey Staff	Dr Tanwishtha Choudhury, Scientist B Mr Prasenjit Sarkar, Medical Social Worker Mr Kingkar Chakma, Medical Social Worker Mr Sudipta Chakna, Medical Social Worker

	Mr Deep Das, Medical Social Worker
	Miss Dipanjana Ghosh, Medical Social Worker
	Mr Kanu Nath, Laboratory Technician
	Mr Suman Debbarma, Field Assistant
	Mr Mithun Debnath, Field Assistant
	Mr Alim Tripura, Laboratory Technician
	Sri Parantap Nag Statistician
	Sri Abhijit Deb, Social Investigator
	Sri Abishek Sinha, Social Investigator
	Sri Rupan Nama, Social Investigator
	Sri Dipankar Sen, Social Investigator
	Sri Bikash Debnath, Social Investigator
	Sri Sunil Ch. Das, Social Investigator
	Sri Bikash Gon Choudhary, Data Entry Operator

Photographs of the Survey

