Azadi Ka Amrit Mahotsav

INDIAN COUNCIL OF MEDICAL RESEARCH

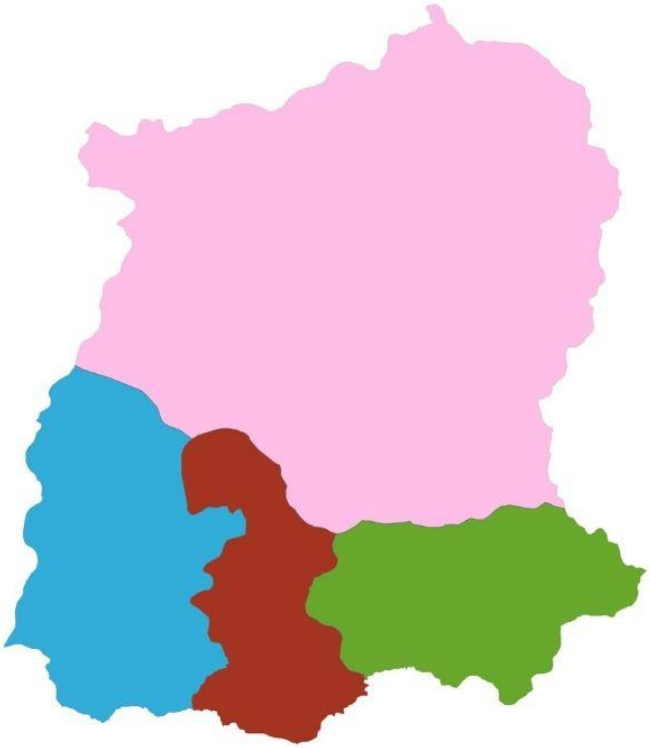
NATIONAL CENTRE FOR DISEASE INFORMATICS AND RESEARCH

CaRes Cancer Research in North East, India

Research for better health

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

2022



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Date 02/05/2022

MESSAGE

I am very pleased to know that the survey report on **"MONITORING SURVEY OF CANCER RISK FACTORS AND HEALTH SYSTEM RESPONSE IN NORTH EAST REGION (NER)"** is being published.

This survey was conducted as a part of Cancer Research in the North East Region, a multidisciplinary programme for preventing and controlling cancer in the Northeastern States. It aims to form a baseline database of cancer and other NCD-related risk factors for comparison in subsequent surveys, which would help establish and 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.

The report gives picture of risk factors and health system response indicators in the State of Sikkim.

I would like to congratulate Dr. Tseten W. Bhutia, Principal Investigator, PBCR Sikkim, New STNM Hospital, Sochakgang, Gangtok and his staff for carrying out the survey successfully. I also congratulate the Indian Council of Medical Research, New Delhi and National Centre for Disease Informatics and Research, Bangalore for executing the survey and providing technical support.

2/05/2022

Dr. Pempa T. Bhutia
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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 Sikkim. 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 Sikkim, implemented through PBCR Sikkim situated at Sir Thutob Namgyal Memorial Referral Hospital, Gangtok.

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

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

Prashant Mathur

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MESSAGE

I am pleased to know that the Population Based Cancer Registry; Sikkim has completed the survey titled **"MONITORING SURVEY OF CANCER RISK FACTORS AND HEALTH SYSTEM RESPONSE IN NORTH EAST REGION (NER)"** under the joint supervision of INDIAN COUNCIL OF MEDICAL RESEARCH, New Delhi and NATIONAL CENTRE FOR DISEASE INFORMATICS AND RESEARCH, Bangalore.

And it also gives me an immense pleasure to know that the survey report is being published. I congratulate Dr. Tseten W. Bhutia, Principal Investigator, PBCR Sikkim, STNM Hospital, Sochakgang, Gangtok and his teams who have put in all the hard work to carry out the survey successfully.

Cancer is a disease which needs to be addressed urgently and a clear understanding needs to be undertaken as there are marked regional variations in incidence arid patterns. To tackle the burden of cancer in our state this document could be a ready reference for researchers, clinicians, Health Administrators and Epidemiologists.

The report gives a brief idea about the health system response in the state, the burden of cancer, disease related to change in lifestyle and ethnicity as a risk for certain cancers.

Dr. K.B. Gurung
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STNM Hospital, Sochakgang,

Acknowledgement

Monitoring Survey of Cancer Risk Factors and Health System Response in North East Region of India which was conducted as a part of Cancer Research in the North East Region (CaRes NER).

The Population Based Cancer Registry, New STNM Hospital has successfully completed the project on 27th March 2021.

The vision of Hon'ble Chief Minister Mr. Prem Singh Tamang (Golay) and dynamism of Hon'ble Health Minister, Dr. Mani Kumar Sharma is gratefully acknowledged.

We would also extend gratitude to Dr. Pempa T. Bhutia, Director General cum Secretary, Department of Health and Family Welfare for his guidance and support.

We would like to extend our gratitude to earlier Principal Chief Consultant cum Medical Superintendent Dr. Passang D. Phempu and Dr. Chandra Shekhar Sharma, Head of the Institute, New STNM Hospital for the relentless support, encouragement and belief in our abilities for the execution of the project.

We would like to extend our gratitude to the present Principal Chief Consultant and Medical Superintendent, Dr. K. B. Gurung for his support.

I and the entire survey team would like to express our special thanks and gratitude to Dr. Prashant Mathur, Director, Indian Council of Medical Research – National Centre for Disease Informatics and Research, (Principal Investigator) Bengaluru who gave the opportunity to do this important project which aim to form a baseline database of cancer and other NCD related risk factors.

I would also like to express my gratitude to Dr. Anita Nath, Co-Investigator of the project and other staff of Indian Council of Medical Research, National Centre for Disease Informatics and Research, Bengaluru for constant guidance and support.

Thanks and appreciation also goes to all the staff involved who put in lots of hardship in this project even during the times of Covid-19 Pandemic.

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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 Sikkim.

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

Key findings:

- The proportion of solid fuel use was high in rural areas (72.8%). More than two third of the rural population (72.4%) used wood as cooking fuel. Nearly 73% of the rural population used 'open stove' or 'chulha' for cooking.
- Around 29% of the total population were current tobacco users, comprising 43.2% men and 13% women. More than half (66.6%) of men were current users of smoked tobacco.
- 35.4% of the respondents reported to have consumed alcohol over the past 12 months and 33.3% reported alcohol use within the past month.
- The mean number of days on which either fruits or vegetables were consumed was 6.1 days in a week.
- According to the WHO criteria, the proportion of those who were obese was 8%, while the prevalence of obesity was higher (38.3%) using Asian cut off points.
- The prevalence of raised blood pressure was 43.6%, of which the proportion of newly detected (32.8%) was higher than previously known (10.8%).
- The proportion of respondents whose blood glucose level was over 126 mg/dl was 6.7%, among whom the proportion of known diabetics was 5.4%.
- Nearly half the propotion (50%) of the cancer patients had sought health care outside of their state, while an equal proportion (50%) were availing treatment at a government health facility.
- As high as 78.6% of the cancer patients were self-financing their treatment; 100% were covered by health insurance.
- Cancer screening for all three types of cancers (cervical, breast, oral) was available in 78.9% of the PHCs and 60% of the District hospitals.
- None of the CHCs provided screening services for Cervical, breast or oral cancer.
- A few CHCs had a specialist in position in the following departments: medicine (100%), radiology (33.3%) and Pathology (66.7%). No specialists were available in department of Surgery, Gynecology, Paediatrics.
- Nearly 66.7% of the General Duty Medical Officers at the CHCs & 60% of the General Duty Medical Officers 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. Whereas 100% of the specialists in department of Medicine and 80% of the specialists in gynecology were trained in the District hospitals under NPCDCS/NHM (NCD related)/State program.
- Daycare facilities for chemotherapy was unavailable in both CHCs and District hospitals.

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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 above analysis. The PBCR of Sikkim is situated in Sir ThutabNamggyal Memorial (STNM) Multispecialty Hospital, Gangtok. The PBCR was established in 2003 with 36 sources of registrations. 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 Sikkim		
	Population	**Literacy Rate (%)**
Males	323070	86.6
Females	287507	75.6
Total	610577	81.1

Source [1]

PBCR Coverage – Sikkim	
PBCR name	Sikkim
PBCR location	Sir ThutabNamggyal Memorial (STNM) Multispecialty Hospital, Gangtok.
Coverage area	Sikkim state
Year of establishment	2003
Number of sources of registration	36
Area (in Sq. km)	7096
Coverage of urban and rural area (%)	25.2% & 74.8%

1.1 Profile of cancer in Sikkim[2]

Cancer is among the top five leading causes of death in the State [3]. In Sikkim, the leading site of cancer was of the stomach (16.9%) as highest among males, followed by Oesophageal cancer (7.8%) and lung cancer (7.1%). Among Females, the presence of breast cancer is the highest (12.2%) followed by cervix uteri (10.3%) and cancer of the stomach (7.3%) Tobacco use related cancer sites were seen as high as a little over 30% among males and close to 20% among the females. Across both the gender, Cancer of the Lung (7.1%% in males & 6.5%% in females) constituted the leading site followed by oesophagus (7.8% in males and 4.6% in 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	1172	88.7
Females	1131	97.0

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

Sl.No	PBCR Sikkim			
	Males		Females	
	Type of Cancer	Probability	Type of Cancer	Probability
1.	Stomach	1 in 50	Breast	1 in 87
2.	Oesophagus	1 in 104	Cervix Uteri	1 in 89
3.	Liver	1 in 121	Stomach	1 in 97
4.	Lung	1 in 127	Lung	1 in 118
5.	Nasopharynx	1 in 202	Gallbladder	1 in 154

1.3 Availability of Health Services related to Cancer Care in Sikkim 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 Sikkim. 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)	153
Health and Wellness Centre - Sub Centre (HWC-SC)	27
Primary Health Centres (PHC)	26
Health and Wellness Centre - Primary Health Centre (HWC-PHC)	13
Community Health Centres (CHC)	2
Sub-district Hospitals (SDH)	1
District Hospitals (DH)	4
Number of government allopathic doctors and dental surgeons	399
B. Tertiary health care facilities	
Medical Colleges[7]	01
Tertiary cancer care centre[8]	00
Regional cancer care centre[9]	00
C.Stategovernment health scheme [10]	1. Comprehensive annual and total health checkup (CATCH) Program 2. Mukhya Mantri Jeevan Raksha Kosh 3. Sikkim State Illness Assistance Fund (SSIAF)

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-boundand 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 Sikkim.

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 Sikkim.

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 Sikkim with 100% coverage by the PBCR as show in the table below:

Table 2.3.1 Sample size charting for the survey

Registry Name	State Name	State Total Population	State Total Population (Age 18+)	Total Population (Age 18+) covering PBCR	Total Population of Study site (as per census 2011)-(Age 18+)	% of under PBCR covering area	Total sample size per Study Site (Approximately)	Total PSUs (48 HH per PSU)
Sikkim - PBCR	Sikkim	610577	403569	403569	403569	100	2880	60
Total Sample Size and Total PSU							**2880**	**60**

2.4 Data Collection Tools

The study tools used for different levels included (i) Household (ii) Adult (iii) Adult with cancer and (iv) Health facility (PHC or urban equivalent, CHC/ District Hospital and private facilities). These instruments were adapted from the National NCD Monitoring Survey (NNMS) to suit survey objectives. Standard references were used to define the data variables [10,11,12]

2.5 Survey Period

The survey was conducted between February 2020 and March 2021.

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 7th-9th February, 2020 at Sir ThutabNamggyal Memorial (STNM) Multispecialty Hospital, Gangtok.

2.8 Data Management and Analysis

The field team used the handheld devices loaded with the software application for data collection and entered the 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.

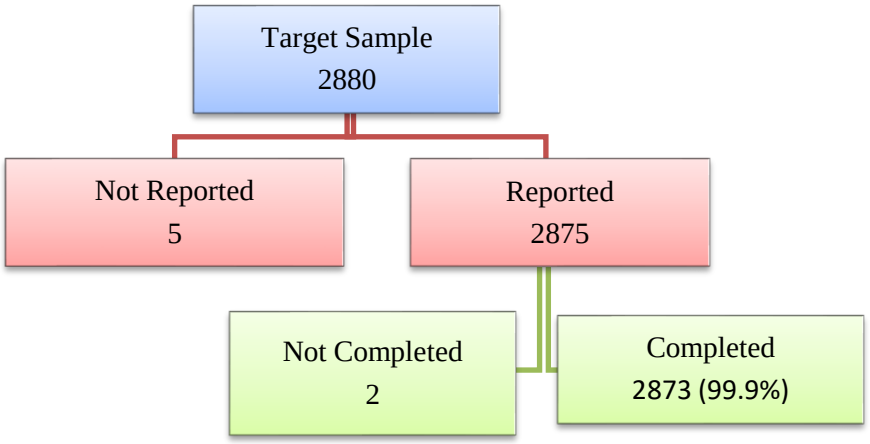
The data from all PSUs' were compiled and cleaned, following which weighting procedures were followed for adjusting for sampling and population proportions and response rates. The detailed statistical analysis plan was prepared based on the identified indicators and subgroups. The data analysis was done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

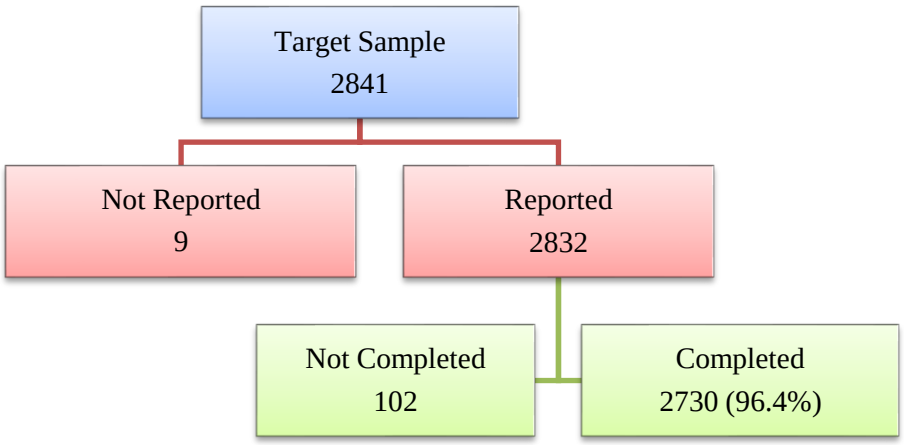
Sikkim PBCR received its institutional ethical clearance from their institutional ethics committee [09/IEC/NSTNM/19].The survey received ethical clearance from the Ethics review committee of the CCA, ICMR – NCDIR (NCDIR/IEC/2017/2).

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*

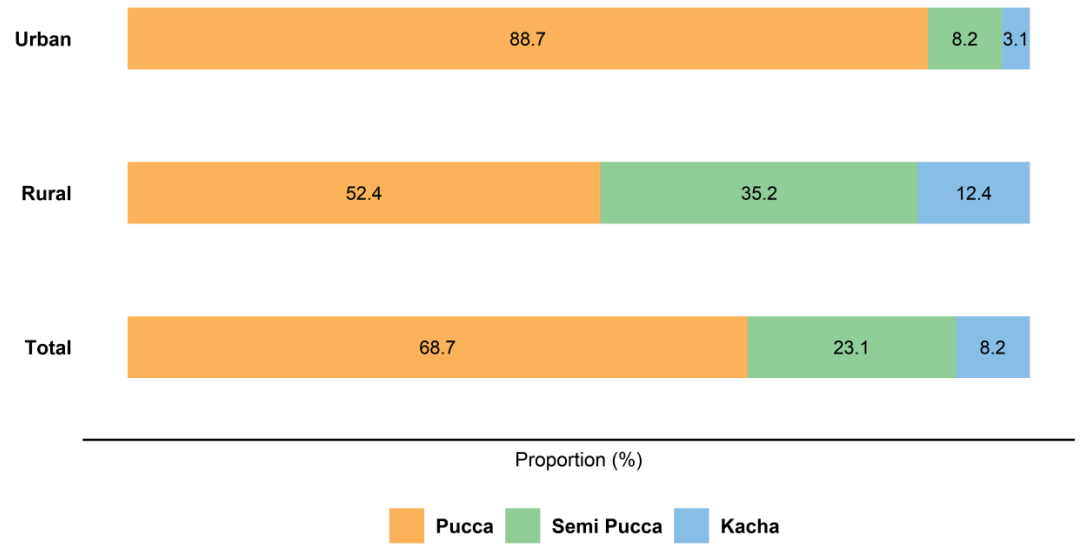
	Urban	Rural	Combined
Median (IQR*)	3 (1)	4 (2)	4 (2)

*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*



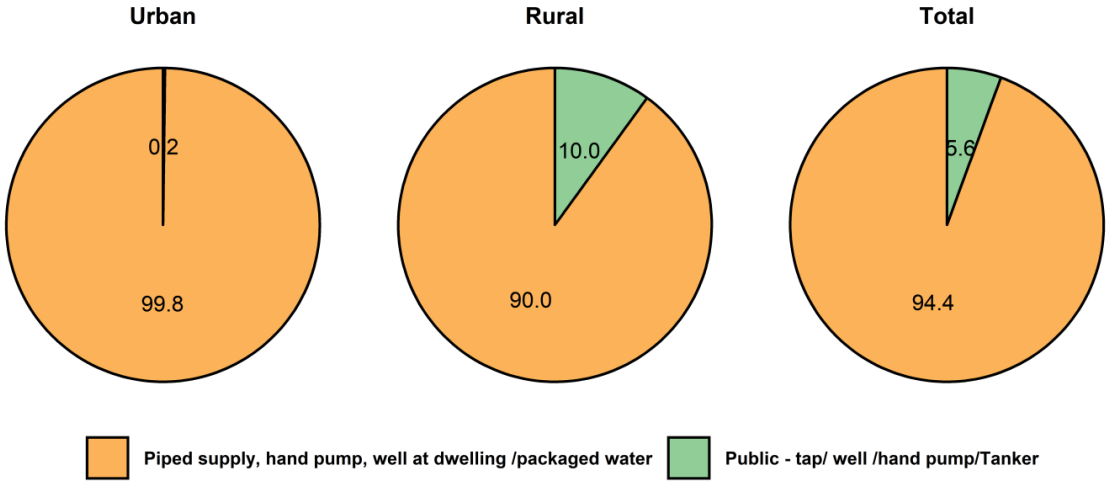
** **Type of house** is defined based on roof, floor and walls.*

***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.*

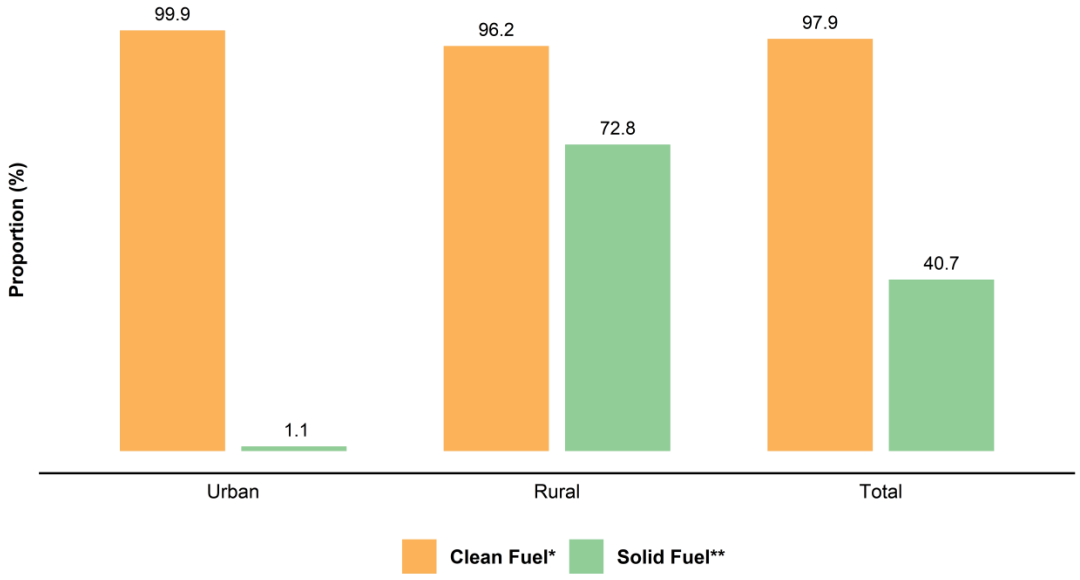
***Kutcha House:** The walls and/or roof are made of material other than those mentioned above, such as unburnt bricks, bamboos, mud, grass, reeds, thatch, loosely packed stones, etc.*

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)

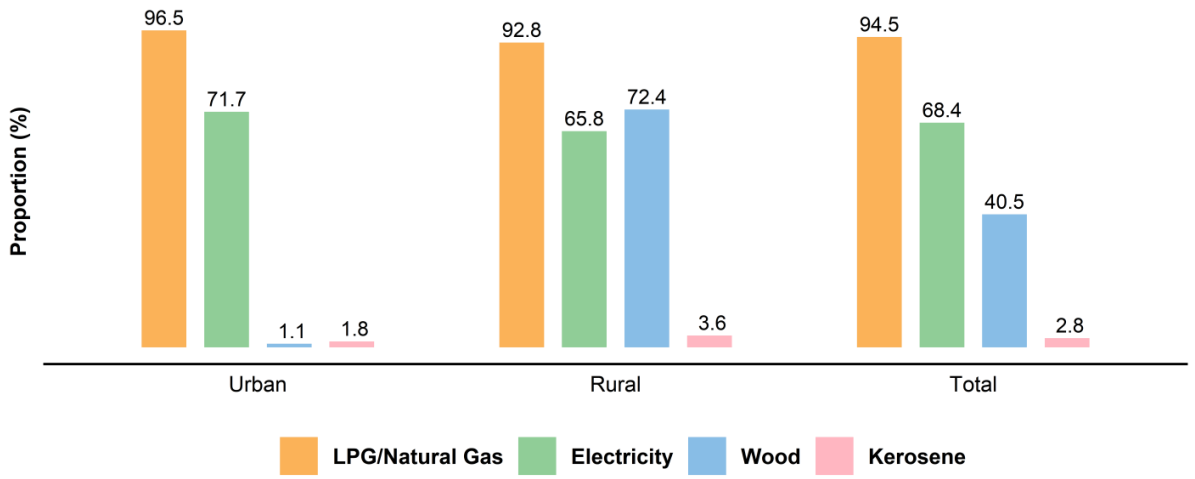
3.1.3 (a) Type of fuel



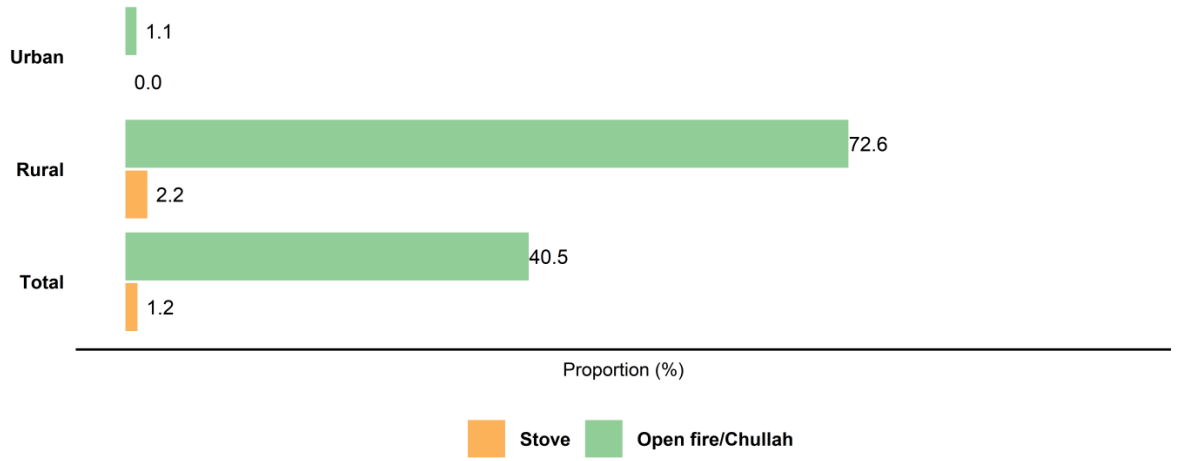
**Clean fuel: Electricity, LPG/Natural Gas, Biogas*

***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 householdsusing solid fuels



3.1 Awareness and Attitudes towards Cancer (Percentage)

Nearly all (97.4%) of the respondents conceded that they never felt ashamed or hesitant to talk about a cancer case in the household. 35.8% 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=671)	Rural(n=2059)	Combined(n=2730)
Percentage of households with diagnosed cancer cases			
Percentage – alive	3 (0.4)	17(0.8)	20 (0.7)
Percentage – deceased	19 (2.8)	47 (2.3)	66 (2.4)

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=3)**	**(N=18)**	**(N=14)**	**(N=7)**	**(N=21)**
< 6 months	0 (0.0)	1 (5.5)	1 (7.1)	0 (0.0)	1 (4.8)
6-12 months	0 (0.0)	1 (5.6)	1 (7.2)	0 (0.0)	1 (4.8)
13– 24months	0 (0.0)	3 (16.7)	2 (14.3)	1 (14.3)	3 (14.2)
> 24 months	3 (100.0)	11 (61.1)	9 (64.3)	5 (71.4)	14 (66.7)
Don't know	0 (0.0)	2 (11.1)	1 (7.1)	1 (14.3)	2 (9.5)
Duration between diagnosis and death of the patient	**(N=19)**	**(N=49)**	**(N=33)**	**(N=35)**	**(N=68)**
< 6 months	5 (26.3)	14 (28.6)	10 (30.3)	9 (25.7)	19 (27.9)
6-12 months	0 (0.0)	2 (4.1)	1 (3.0)	1 (2.8)	2 (3.0)
13– 24months	4 (21.1)	9 (18.4)	5 (15.2)	8 (22.9)	13 (19.1)
> 24 months	7 (36.8)	8 (16.3)	6 (18.2)	9 (25.7)	15 (22.1)
Don't know	3 (15.8)	16 (32.6)	11 (33.3)	8 (22.9)	19 (27.9)

**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**)**	163.0	66.5	81.7
Average duration of cancer **(**deceased**)**	22.9	12.4	15.8
Average duration of cancer **(**alive**/**deceased**)**	45.0	30.0	34.2

**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	75.2	71.0	72.0	74.1	73.0
45 –69	22.0	24.5	24.2	22.3	23.3
70 and above	2.8	4.5	3.8	3.6	3.7
Marital Status					
Never married	14.7	13.1	16.4	10.9	13.9
Currently married/ cohabiting	81.0	79.5	80.0	80.5	80.2
Separated/Not living together/ Divorced	0.9	1.3	1.2	1.0	1.1
Widowed	3.4	6.1	2.4	7.6	4.8
Highest level of Education					
Less than class 6	20.3	30.5	23.4	27.8	25.3
Class 6 to 10	43.6	47.2	44.6	46.4	45.4
Class 11 or 12	14.5	12.2	12.4	14.6	13.4
Graduation or diploma completed	18.1	8.5	16.4	9.4	13.3
Post-graduation	3.5	1.5	3.2	1.7	2.5
No response	0.0	0.1	0.0	0.1	0.1
Occupation					
Professional	**24.5**	**16**	**28.4**	**10.3**	**20.0**
Medium or large Business	**2.6**	**0.6**	**2.4**	**0.7**	**1.6**
Middle / Senior Executive/officer in organization	**0.1**	**0.2**	**0.1**	**0.2**	**0.2**
Agricultural land owner	**0.7**	**4**	**3.6**	**0.9**	**2.4**
Sales and Marketing executives/Clerical	**0.5**	**0.2**	**0.6**	**0.0**	**0.3**
Self-employed and small business	**21.7**	**8.7**	**20.2**	**8.8**	**14.9**
Skilled manual labourer	**10.8**	**6.5**	**14.5**	**1.7**	**8.6**
Unskilled manual/agricultural labourer	**2.9**	**16.3**	**14.6**	**4.3**	**9.9**
Student	**4.1**	**3.4**	**3.3**	**4.2**	**3.7**
Homemaker	**26.6**	**35.4**	**2.5**	**64.7**	**31.2**
Retired	**3.0**	**2.4**	**4.1**	**1.1**	**2.7**
Unemployed (able to work)	**1.7**	**4.6**	**4.2**	**2.1**	**3.2**
Unemployed(unable to work)	**0.3**	**1.5**	**0.9**	**1.0**	**1.0**
No response	**0**	**0**	**0.0**	**0.0**	**0.0**
Others	**0.5**	**0.2**	**0.6**	**0.0**	**0.3**

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

	Urban	Rural	Men	Women	Total
Religion					
Hinduism	60.9	54.0	56.8	57.9	57.4
Islam	3.9	0.5	2.4	1.7	2.1
Christian	10.6	14.7	13.0	12.4	12.7
Sikhism	0.0	0.0	0.0	0.0	0.0
Buddhism	24.6	30.7	27.7	28.0	27.8
Jainism	0.0	0.02	0.02	0.0	0.01
Don't know	0.0	0.1	0.05	0.0	0.03
None	0.0	0.01	0.02	0.0	0.01
Others	0.0	0.02	0.01	0.0	0.01
Social Group					
General	19.1	3.5	12.1	9.6	11.0
OBC	46.7	51.1	48.0	50.2	49.0
SC	7.4	5.5	6.3	6.6	6.4
ST	26.5	39.9	33.5	33.4	33.5
No response	0.1	0.0	0.1	0.0	0.04
Don't know	0.2	0.0	0.0	0.2	0.1

3.5 Obstetric History of Adult Females

	Urban	Rural	Total
Ever Pregnant (%)	82.5	84.2	83.5
Age at first Pregnancy (%)			
<18 Years	8.0	9.6	9.0
18 – 29 Years	85.2	86.2	85.8
≥ 30 Years	6.8	4.2	5.2
Average age at first pregnancy*(in years)	22.1	21.7	21.8
Gravida*#	2.0	2.2	2.1
Ever breast fed	99.7	99.5	99.6
Never breast fed	0.3	0.5	0.4
Mean/Median duration(in months) of breastfeeding among ever pregnant women[@]	49.4	53.9	52.2

**Values are expressed as Mean;*

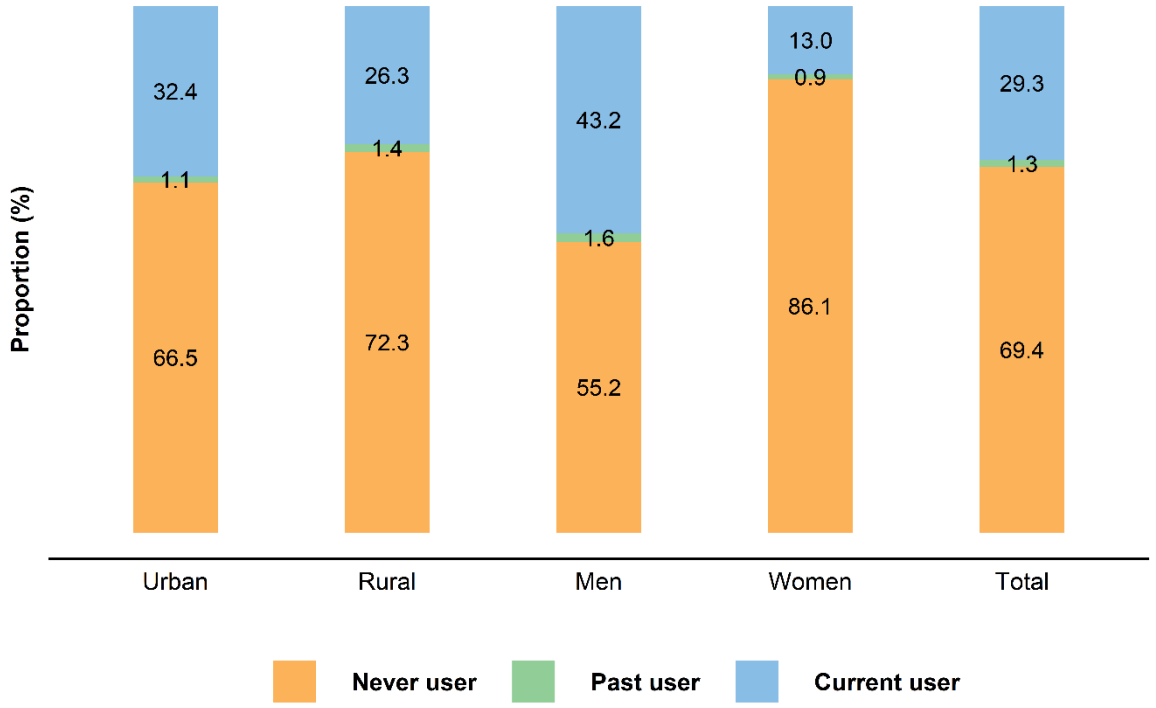
[#]Includes total number of confirmed pregnancies that a woman has had (includes abortion, still births or live births)

[@]Combined breast feeding duration of all live births

3.6 Behavioural Characteristics

3.6.1 Tobacco use

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



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

	Urban	Rural	Men	Women	Total
Never user*	78.3	86.3	72.8	93.9	82.5
Past user**	1.2	1.4	1.7	0.7	1.3
Current user***	20.5	12.3	25.5	5.4	16.2

**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	83.9	82.9	76.1	91.9	83.4
Past user	0.2	0.4	0.3	0.4	0.3
Current user	15.9	16.7	23.6	7.7	16.3

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	16.5	9.6	19.6	5.2	13.0
Only Smokeless Tobacco	11.9	14.1	17.7	7.6	13.0
Both Smoked and Smokeless Tobacco	4.0	2.6	5.9	0.2	3.3
Either Smoked or Smokeless Tobacco	32.4	26.3	43.2	13.0	29.3

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

	Urban	Rural	Men	Women	Total
Only Smoked Tobacco	13.8	8.7	17.2	4.1	11.2
Only Smokeless Tobacco	11.7	13.4	17.6	6.7	12.6
Both Smoked and Smokeless Tobacco	2.8	2.1	4.4	0.2	2.4
Either Smoked or Smokeless Tobacco	28.3	24.2	39.2	11.0	26.2

** 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	10.3	35.5	18.0	32.3	20.2

Manufactured Cigarettes	73.6	66.3	74.7	48.8	70.7
Hand-rolled Cigarettes	0.0	0.8	0.1	1.4	0.3
Pipes /Chilam	0.0	0.0	0.0	0.0	0.0
Cigars, Cheroots	0.0	0.0	0.0	0.0	0.0
Hookah/No. of Shisha session	0.0	0.0	0.0	0.0	0.0
Local smoked tobacco products	0.0	0.0	0.05	0.0	0.03
Others	0.0	0.0	0.0	0.0	0.0
Smokeless Tobacco					
Chewing tobacco	87.0	91.9	90.9	85.1	89.6
Pan with *Zarda*, Betel with Tobacco quid	3.8	1.1	2.3	2.8	2.4
Tuibur, Tobacco Snuff, by mouth	0.0	0.2	0.1	0.0	0.1
Snuff, by nose	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0

**Among current users*

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

	Urban	Rural	Men	Women	Total
Age at initiation					
Any form of tobacco*	20.6	19.7	20.0	20.6	20.1
Smoked tobacco	19.5	19.5	19.2	21.0	19.5
Smokeless tobacco	22.1	19.9	21.1	20.4	21.0
Age at cessation					
Any form of tobacco**	38.4	38.5	38.6	38.0	38.4
Smoked tobacco	38.6	37.2	37.8	37.7	37.8
Smokeless tobacco	37.1	40.8	43.0	36.8	39.8

**Minimum age of smoked and smokeless tobacco use*

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

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

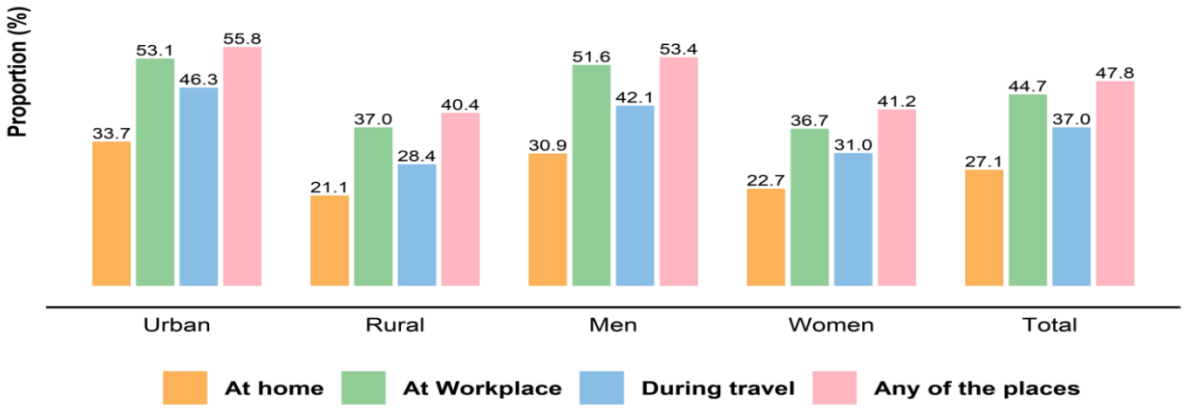
	Urban	Rural	Men	Women	Total
Any form of tobacco	18.5	17.9	18.8	16.8	18.2
Smoked tobacco	19.2	16.4	18.0	16.5	17.6
Smokeless tobacco	14.2	19.4	20.7	15.4	17.9

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)	11.6	11.9	10.8	17.0	11.7
Advised to quit					
Any form of tobacco use	1.0	1.3	1.3	0.9	1.1
Smoked tobacco use	0.7	0.9	1.1	0.4	0.8
Smokeless tobacco use	0.5	0.6	0.5	0.6	0.6

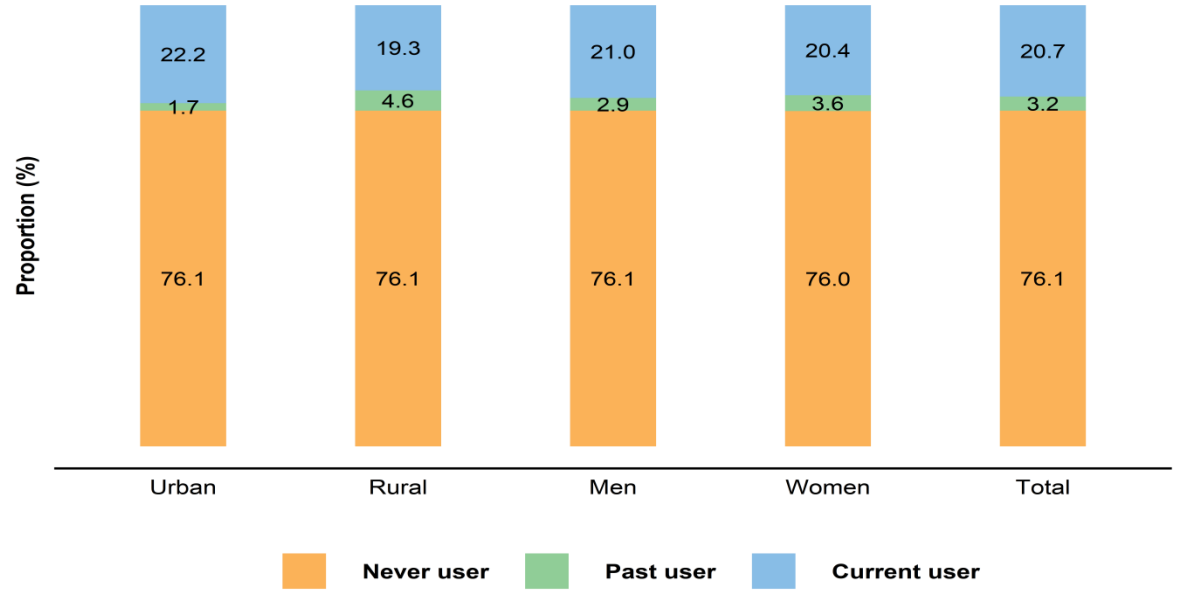
3. 6. 2 Exposure to Second Hand Smoke

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)*



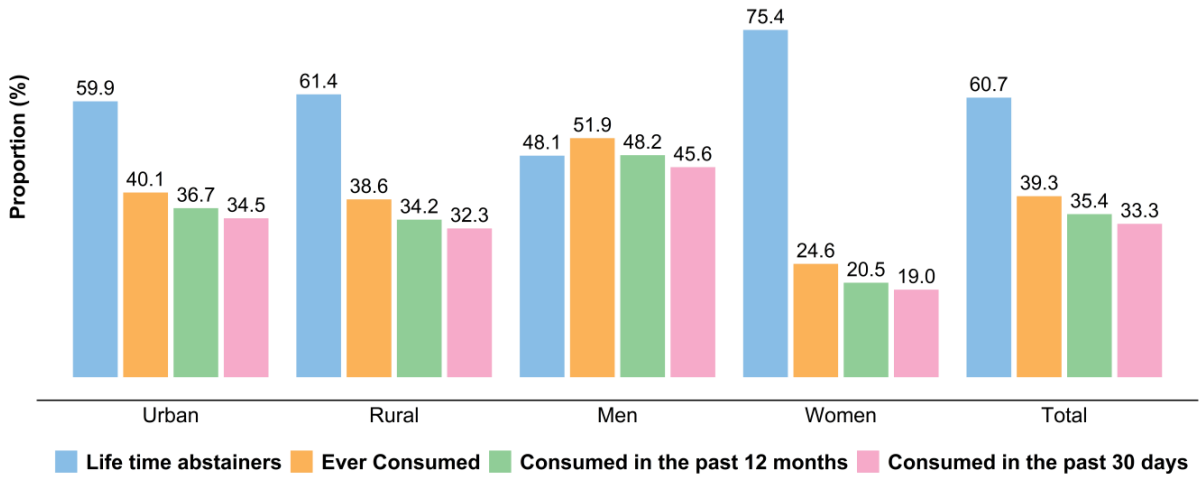
**Includes pan masala, betel quid, areca nut.*

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	89.9	93.9	89.2	95.3	92.0
Past user	0.9	1.6	1.3	1.2	1.3
Current user	9.2	4.5	9.5	3.5	6.7
Betel quid					
Never user	99.4	96.3	98.2	97.3	97.8
Past user	0.4	0.6	0.5	0.5	0.5
Current user	0.2	3.1	1.3	2.2	1.7
Areca nut					
Never user	78.2	78.9	79.0	78.1	78.6
Past user	2.0	5.2	3.1	4.4	3.7
Current user	19.8	15.9	17.9	17.5	17.7

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	22.1	21.2	21.2	22.9	21.7

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	73.6	72.7	72.4	75.1	73.1
Daily/ almost daily	5.8	4.8	6.4	2.4	5.3
Weekly	6.8	6.4	7.9	3.1	6.6
Monthly	3.7	5.2	4.1	5.4	4.5
Less than Monthly	10.1	10.9	9.2	14.0	10.5
Failed to do usual routine work due to drinking habit					
Never	84.3	80.8	79.6	90.7	82.5
Daily/ almost daily	0.0	1.8	1.0	0.5	0.9
Weekly	2.8	2.9	3.7	0.6	2.9
Monthly	1.0	3.0	2.0	2.0	2.0
Less than Monthly	11.9	10.8	13.2	6.1	11.3
Need of first drink in the morning					
Never	95.8	91.2	92.2	96.9	93.5
Daily/ almost daily	0.0	0.9	0.6	0.0	0.4
Weekly	0.6	0.4	0.7	0.0	0.5
Monthly	0.1	0.9	0.6	0.3	0.5
Less than Monthly	3.5	6.0	5.5	2.8	4.8

**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	21.8	20.1	30.8	9.6	20.9
45 – 69 Years	26.5	21.0	33.7	10.5	23.5
70 years and above	20.5	9.5	17.5	8.5	13.5
18+ years	22.8	19.8	31.0	9.8	21.2

**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	0.0	2.4	1.1	1.4	1.2
45 – 69 Years	1.6	4.8	3.8	2.8	3.4
70 years and above	0.0	8.6	5.3	5.6	5.4
18+ years	0.4	3.3	1.9	1.8	1.9

3.6.5 Diet

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

	Urban	Rural	Men	Women	Total
Fruits	2.7	2.4	2.6	2.5	2.5
Vegetables	5.9	6.0	6.0	6.0	6.0
Fruits and/or Vegetables*	6.0	6.1	6.1	6.1	6.1
Fruit or Vegetable juice**	0.7	0.9	0.8	0.8	0.8

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

	Urban	Rural	Men	Women	Total
Fruits	0.5	0.4	0.4	0.5	0.4
Vegetables	2.2	2.1	2.2	2.1	2.2
Fruits and/or Vegetables*	2.7	2.5	2.6	2.6	2.6
Fruit or Vegetable Juice **	0.1	0.1	0.1	0.1	0.1

**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	1.3	1.4	1.3	1.3	1.3
Fish	1.1	1.1	1.1	1.1	1.1
Red Meat	1.4	1.4	1.4	1.3	1.4
Either Birds/Poultry or Fish or Red Meat*	1.6	1.5	1.6	1.5	1.6

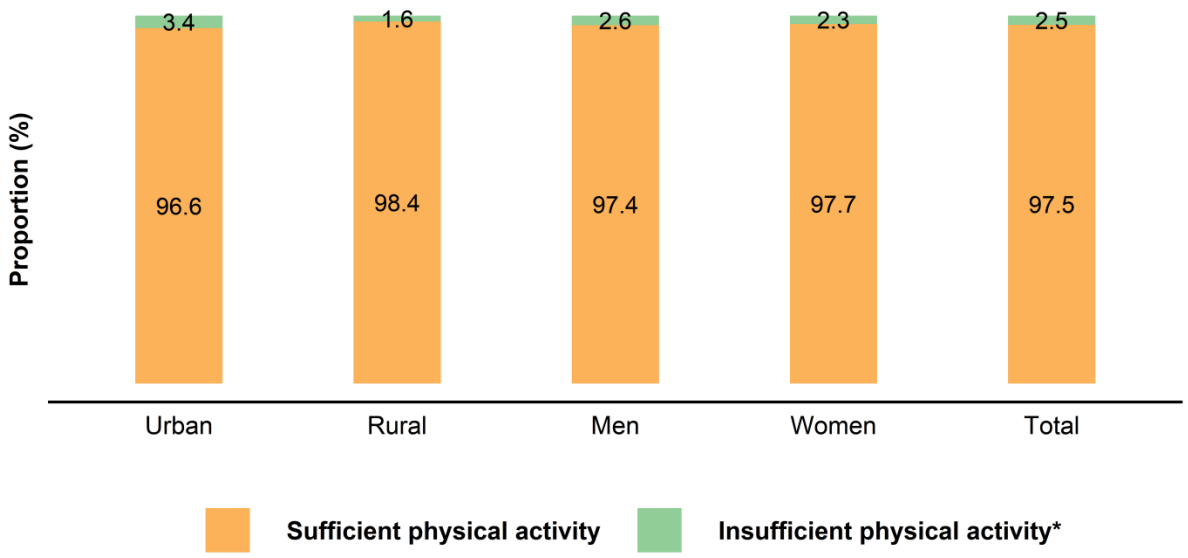
**If an adult consumed more than one meat item, the maximum number of days for any one item was considered*

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	44.6	34.9	41.0	37.9	39.6
Mean number of days of consumption	2.8	2.5	2.7	2.6	2.7

3.6.6 Physical Activity

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



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

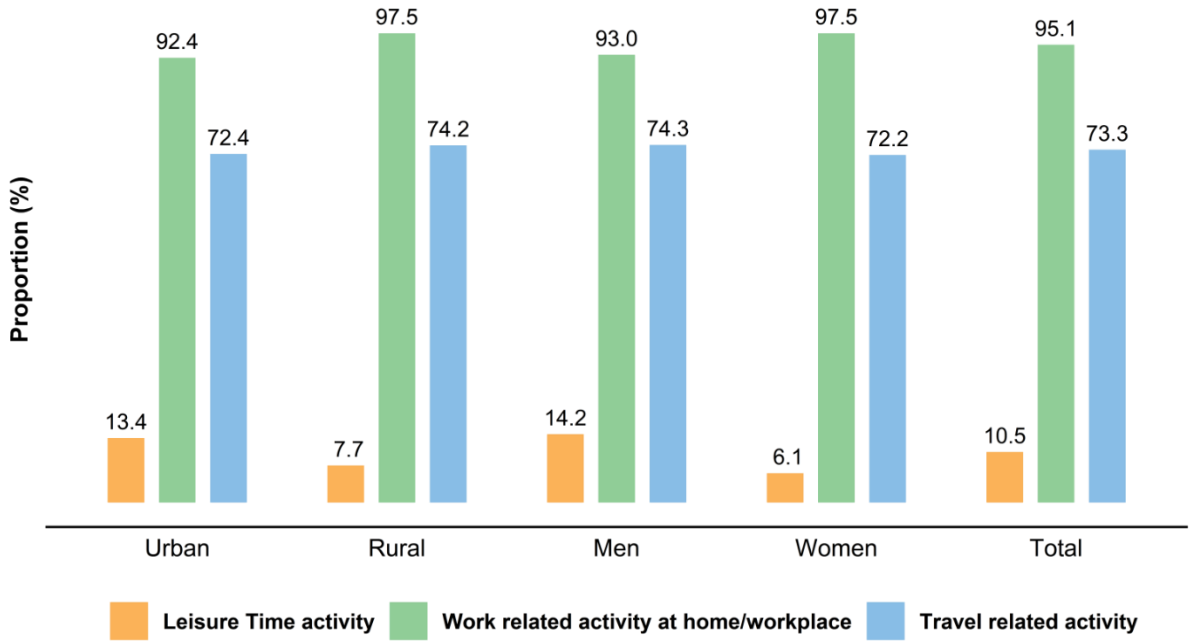
3.6.6.2 - Nature of physical activity in which the participants are engaged by place of residence and gender(Percentage)

	Urban	Rural	Men	Women	Total
Routine work at home/workplace					
Vigorous-intensity activity*	21.7	58.6	43.6	37.7	40.9
Moderate intensity activity**	90.4	93.4	87.5	97.1	91.9
Recreational/leisure activities					
Vigorous-intensity activity	1.9	2.4	3.7	0.3	2.1
Moderate intensity activity	12.3	6.3	12.0	5.9	9.2

**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.*

3.6.6.3 -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	14.2	14.3	16.3	11.9	14.2
45 – 69 Years	19.1	11.5	18.1	10.9	15.0
70 years and above	9.9	7.3	10.2	5.8	8.3
18+ years	15.2	13.3	16.5	11.5	14.2

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	72.4	65.5	68.8	68.9	68.8

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

	Urban	Rural	Men	Women	Total
<15 Years	0.6	1.1	0.04	1.7	0.8
15 – 19 Years	25.2	32.0	12.0	47.9	28.6
20 -24 Years	37.1	43.2	42.9	36.9	40.1
> 25 Years	37.1	23.7	45.0	13.5	30.5

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

	Urban	Rural	Men	Women	Total
Single sexual partner	90.2	86.2	87.2	89.2	88.1
Multiplesexual partner*	0.8	0.4	0.6	0.6	0.6

**Two or more sexual partners*

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

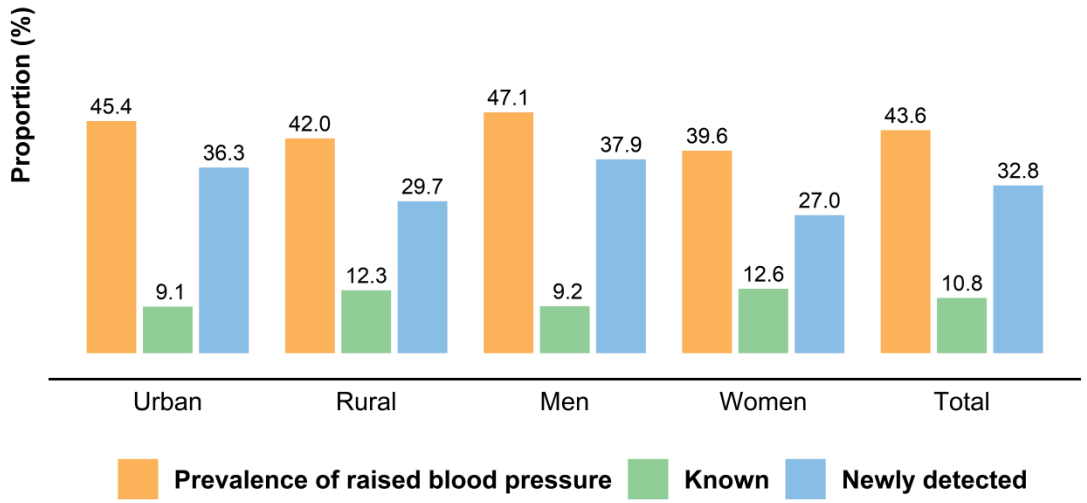
The mean age at first sexual intercourse was 22.1 years, which was slightly lower among women (20.3 years) than men (23.6 years)

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	0.0	0.2	0.0	0.2	0.1
Type of symptoms					
Urethral /vaginal discharge	0.0	16.9	0.0	16.9	16.9
Blisters or ulcers (sores) on the mouth, lips, genitals, anus, or surrounding area	0.0	0.0	0.0	0.0	0.0
Burning or pain during urination	0.0	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≥140 and/or diastolic blood Pressure ≥90*

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

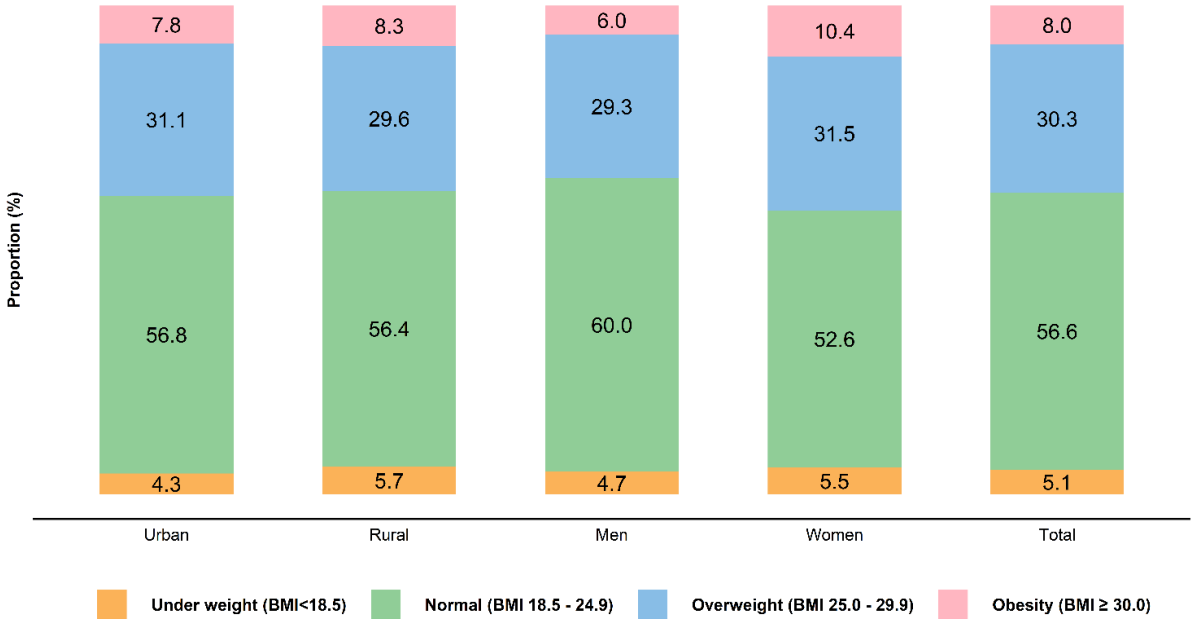
	Urban	Rural	Men	Women	Total
Normal	15.0	20.7	13.5	23.1	17.9
Pre - Hypertension	40.1	40.5	40.3	40.5	40.4
Hypertension – Stage 1	27.9	24.6	30.6	21.0	26.2
Hypertension – Stage 2	17.0	14.2	15.6	15.4	15.5

*** 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.*

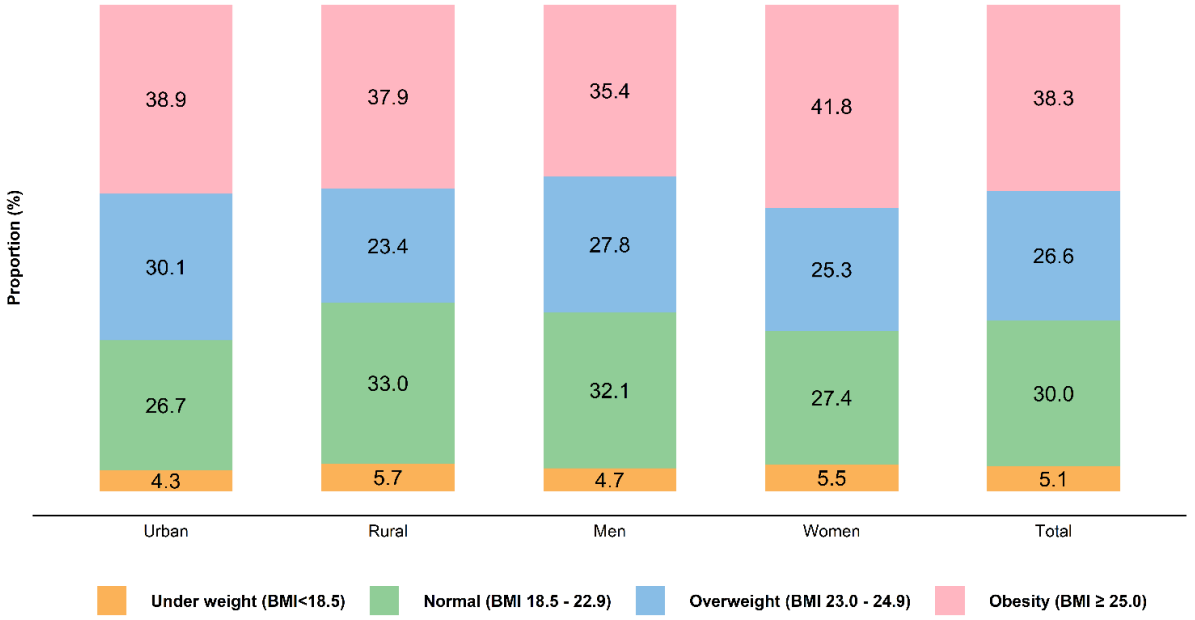
3.8 Physical Measurement

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	38.9	37.9	35.4	41.8	38.3
Obese (BMI ≥30.0) kg/m^2	7.8	8.3	6.0	10.4	8.0

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

	Urban	Rural	Men	Women	Total
18- 44 Years	56.1	48.8	34.3	73.3	52.5
45 – 69 Years	70.5	58.9	49.8	82.6	64.2
70 years and above	60.7	51.5	41.7	71.0	54.8
18+ years	59.4	51.4	38.3	75.3	55.3

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

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

	Urban	Rural	Men	Women	Total
18- 44 Years	25.2	19.2	24.0	20.1	22.1
45 – 69 Years	31.4	21.5	28.6	22.6	26.0
70 years and above	30.9	30.3	33.8	26.4	30.5
18+ years	26.7	20.2	25.5	20.9	23.3

3.9 BloodGlucose 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*	7.0	6.3	6.7	6.7	6.7
Known	5.7	5.1	5.6	5.2	5.4
Newly detected	1.3	1.2	1.1	1.5	1.3

**Raised fastingblood 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	93.6	92.1	94.0	91.5	92.8
100 – 109 mg/dl	0.8	2.4	0.8	2.6	1.6
110 – 125 mg/dl	1.6	1.8	1.5	2.0	1.8
≥126 mg/dl	4.0	3.7	3.7	3.9	3.8

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	31.2	27.6	36.3	21.6	29.4
45 – 69 Years	54.7	47.2	53.8	46.6	50.6
70 years and above	75.3	50.9	62.5	56.5	59.8
18+ years	37.7	33.5	41.5	28.4	35.5

**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/m^2), raised blood pressure and raised fasting blood glucose including those on medication.*

3.11 Health Seeking Behaviour and Management Indicators

3.11.1 Blood Pressure

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

	Urban	Rural	Men	Women	Total
Never measured in life	24.0	24.7	26.9	21.4	24.4
Measured ever in life	76.0	75.3	73.1	78.6	75.6
Within past 1 year	62.5	63.1	59.3	67.0	62.8
> 1 year	13.4	12.2	13.9	11.5	12.8

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	85.3	65.7	80.6	67.7	73.6
On treatment*	59.1	40.8	52.4	44.7	48.3
Adherence to treatment**	57.3	38.2	49.7	42.8	46.0
Blood pressure under control ***	13.7	27.2	14.7	27.7	21.7

** 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	94.0	95.1	94.6	94.5	94.6
Private/NGO screening camp/Health facility	6.0	4.9	5.4	5.5	5.4
Current source of consultation for raised blood pressure					
Allopathic doctor from Public sector	81.6	62.0	70.6	69.3	69.9
Allopathic doctor from Private/ NGO health facility	8.9	0.9	5.2	3.3	4.2

**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	72.5	68.6	68.9	72.3	70.5
45 – 69 Years	83.4	75.9	79.9	78.5	79.3
70 years and above	80.6	80.7	77.8	84.2	80.7
18+ years	75.1	70.9	71.9	74.1	72.9

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	62.9	61.2	65.8	57.5	62.0
Measured ever in life	37.1	38.8	34.2	42.5	38.0
Measured in the past					
Within 1year	30.9	31.0	27.3	35.3	31.0
> 1 year	6.2	7.7	6.9	7.2	7.0

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)*

	ban	ural	Men	omen	otal
Received advice for treatment	67.7	76.9	64.1	82.4	72.2
On treatment*	43.6	50.5	42.3	52.9	47.0
Adherence to treatment**	42.5	46.7	41.5	48.4	44.5
Blood glucose under control ***	54.9	53.2	53.6	54.6	54.0

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

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

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

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

	Urban	Rural	Men	Women	Total
Source of measurement of blood glucose*					
Government screening camp/Health facility	91.5	97.3	93.4	95.5	94.5
Private/NGO screening camp/Health facility	8.5	2.7	6.6	4.5	5.5
Current consultation for raised blood glucose					
Allopathic doctor from Public sector	73.2	67.1	66.0	75.6	70.2
Allopathic doctor from Private/ NGO health facility	11.2	1.9	7.8	5.2	6.6

**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	32.4	33.1	29.8	36.2	32.8
45 – 69 Years	56.9	43.8	47.8	52.3	49.8
70 years and above	57.2	50.2	46.8	60.2	52.8
18+ years	38.5	36.5	34.8	40.6	37.5

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	52.2	45.5	50.8	46.8	48.6
30 – 49 Years	62.2	51.3	57.3	56.2	56.8
50- 69 Years	56.9	43.4	53.9	43.3	49.2
70 years and above	64.8	42.3	55.7	44.1	50.5
18+ years	59.6	48.3	55.6	51.6	53.7
Source of information*					
TV/Newspaper/social media	94.1	88.8	93.2	89.6	91.6
Friends/family	94.3	89.4	92.8	91.0	92.0
Health worker	86.4	80.0	84.3	82.2	83.4
Health awareness camps	72.8	45.8	62.8	56.9	60.2

**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	0.1	0.3	0.2
Breast cancer*	0.0	0.1	0.05
Oral cancer	1.1	0.3	0.7

**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	0.0	37.2	37.2
Only Ultrasound of breast or mammogram	0.0	37.2	37.2
Performed breast self-examination	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)

	Urban	Rural	Total
VIA	0.0	0.0	0.0
PAP	0.0	100.0	80.8
HPV-DNA	0.0	0.0	0.0
Unknown	100.0	0.0	19.2
Others	0.0	0.0	0.0

**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	0.6	0.4	0.6	0.4	0.5
Breast Cancer*	0.0	0.9	-	0.5	0.5
Cervical Cancer*	0.0	0.4	-	0.2	0.2

**Among women respondents*

C. Health Facility Assessment

3.13 Public Primary Health Care Centres*

3.13.1 - Infrastructure and type of availableservices

	Urban (n=1)	Rural (n =18)	Total(N=19)
Types of services			
Outpatient services	1 (100.0)	18 (100.0)	19 (100.0)
In patient services	1 (100.0)	18 (100.0)	19 (100.0)
Emergency services	1 (100.0)	18 (100.0)	19 (100.0)
Availability of functional telephone facility	0 (0.0)	1 (5.5)	1 (5.3)
Availability of ambulance facility[1]	1 (100.0)	18 (100.0)	19 (100.0)
Electricity and functional electricity back up	1 (100.0)	11 (61.1)	12 (63.2)

** 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=1)	Rural (n =18)	Total(N=19)
Written standard treatment guidelines under NPCDCS availability	1 (100.0)	16 (88.9)	17 (89.5)
Cancer screening availability			
Oral Cancer	1 (100.0)	17 (94.4)	18 (94.7)
Cervical Cancer	1 (100.0)	14 (77.8)	15 (78.9)
Breast Cancer	1 (100.0)	16 (88.9)	17 (89.5)
All three cancers	1 (100.0)	14 (77.8)	15 (78.9)
Method of screening cancer			
Organized Screening*	1 (100.0)	14 (77.8)	15 (78.9)
Opportunistic screening**	0 (0.0)	7 (38.9)	7 (36.8)
Place of referral of patients found positive after screening			
CHC	0 (0.0)	0 (0.0)	0 (0.0)
DH	1 (100.0)	12 (66.7)	13 (68.4)
Tertiary Care Hospital	0 (0.0)	5 (27.8)	5 (26.3)
Private Health facility	0 (0.0)	0 (0.0)	0 (0.0)
Availability of Physiotherapy facility	0 (0.0)	1 (5.6)	1 (5.3)

** 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=1)		Rural (n =18)		Total(N=19)	
	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)	0 (0.0)	14 (77.8)	1 (5.6)	14 (73.7)	1 (5.3)
Dietary Modification	0 (0.0)	0 (0.0)	14 (77.8)	1 (5.6)	14 (73.7)	1 (5.3)
Physical Activity	0 (0.0)	0 (0.0)	15 (83.3)	0 (0.0)	15 (78.9)	0 (0.0)
Alcohol Cessation	0 (0.0)	0 (0.0)	16 (88.9)	0 (0.0)	16 (84.2)	0 (0.0)

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

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

	Urban (n=1)	Rural (n =18)	Total(N=19)
IEC materials related to Cancerdisplayed/available in the patient waiting room/outpatient department			
Posters	1 (100.0)	16 (88.9)	17 (89.5)
Videos	0 (0.0)	1 (5.6)	1 (5.3)
Pamphlets	1 (100.0)	13 (72.2)	14 (73.7)
Booklets	1 (100.0)	4 (22.2)	5 (26.3)

3.13.5 Availability of Human Resources

Availability of Human Resources						
Staff	**Urban (n=1)**		**Rural (n =18)**		**Total(N=19)**	
	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)	1 (100.0)	1 (100.0)	18 (100.0)	13 (72.2)	19 (100.0)	14 (73.7)
AYUSH Medical Officer	1 (100.0)	0 (0.0)	1 (5.6)	0 (0.0)	2 (10.5)	0 (0.0)
Staff Nurse	1 (100.0)	1 (100.0)	18 (100.0)	12 (66.7)	19 (100.0)	13 (68.4)
Auxiliary Nurse Midwife (ANM)	1 (100.0)	1 (100.0)	18 (100.0)	7 (38.9)	19 (100.0)	8 (42.1)
Lady Health Visitor/ Female Health Assistant/PHN	1 (100.0)	1 (100.0)	9 (50.0)	8 (44.4)	10 (52.6)	9 (47.4)
Male Health Assistant	0 (0.0)	0 (0.0)	6 (33.3)	0 (0.0)	6 (31.6)	0 (0.0)
Accountant cum data entry operator	1 (100.0)	1 (100.0)	16 (88.9)	4 (22.2)	17 (89.5)	5 (26.3)
Pharmacist	1 (100.0)	0 (0.0)	10 (55.6)	4 (22.2)	11 (57.9)	4 (21.1)
Lab Technician	1 (100.0)	1 (100.0)	15 (83.3)	5 (27.8)	16 (84.2)	6 (31.6)
Health educator	1 (100.0)	1 (100.0)	7 (38.9)	2 (11.1)	8 (42.1)	3 (15.8)
Cold Chain & Vaccine Logistic Assistant	1 (100.0)	0 (0.0)	12 (66.7)	9 (50.0)	13 (68.4)	9 (47.4)

3.13.6 Availability of Laboratoryprocedures and equipment&supplies

	Urban (n=1)	Rural (n =18)	Total(N=19)
Availability of Laboratory [1]			
Routine investigations[2]	1 (100.0)	18 (100.0)	19 (100.0)
Cancer screening[3]	1 (100.0)	15 (83.3)	16 (84.2)
Equipment & supplies available in stock			
General[4]	1 (100.0)	18 (100.0)	19 (100.0)
Cancer screening[5]	1 (100.0)	17 (94.4)	18 (94.7)

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 ofat 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=3)	DH(n=5)
Location		
Rural	2 (66.7)	0 (0.0)
Urban	1 (33.3)	5 (100.0)
Types of services		
Outpatient services	3 (100.0)	5 (100.0)
In patient services	3 (100.0)	5 (100.0)
Emergency services	3 (100.0)	5 (100.0)
Intensive Care Unit(ICU) or Cardiac Care Unit	1 (33.3)	3 (60.0)
Availability of functional Telephone facility	0 (0.0)	0 (0.0)
Availability of ambulance facility[1]	3 (100.0)	5 (100.0)
Electricity and Functional electricity back up	3 (100.0)	5 (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=3)	DH(n=5)
Written standard treatment guidelines under NPCDCS availability	3 (100.0)	4 (100.0)
Cancer screening availability		
Oral Cancer	0 (0.0)	3 (60.0)
Cervical Cancer	0 (0.0)	3 (60.0)
Breast Cancer	0 (0.0)	3 (60.0)
All three cancers	0 (0.0)	3 (60.0)
Method of detecting cancer		
Organised Screening	0 (0.0)	2 (40.0)
Opportunistic screening	0 (0.0)	3 (60.0)
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)	3 (60.0)
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)	0 (0.0)

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

	CHC (n=3)	DH(n=5)
Availability of Counselling facilities for risk behaviour through counsellor or specialised personnel*		
Tobacco cessation	2 (66.7)	4 (80.0)
Dietary Modification	2 (66.7)	4 (80.0)
Physical Activity	2 (66.7)	3 (60.0)
Alcohol Cessation	2 (66.7)	4 (80.0)
IEC materials related to Cancerdisplayed/available in the patient waiting room/outpatient department		
Posters	3 (100.0)	4 (80.0)
Videos	0 (0.0)	0 (0.0)
Pamphlets	2 (66.7)	4 (80.0)
Booklets	2 (66.7)	3 (60.0)
Others	0 (0.0)	0 (0.0)

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

3.14.4 Availability of Human Resources (Medical Staff)

	CHC (n=3)		DH(n=5)	
	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	3 (100.0)	1 (33.3)	5 (100.0)	5 (100.0)
Surgery	0 (0.0)	0 (0.0)	2 (40.0)	1 (20.0)
Gynaecology	0 (0.0)	0 (0.0)	5 (100.0)	4 (80.0)
Radiology	1 (33.3)	0 (0.0)	4 (80.0)	0 (0.0)
Pathology	2 (66.7)	1 (33.3)	5 (100.0)	2 (40.0)
General duty Medical Officer	3 (100.0)	2 (66.7)	5 (100.0)	3 (60.0)
AYUSH	3 (100.0)	2 (66.7)	5 (100.0)	2 (40.0)
Paediatrics	0 (0.0)	0 (0.0)	5 (100.0)	2 (40.0)

3.14.5 Availability of Human Resources (paramedical / other Staff)

	CHC (n=3)		DH(n=5)	
	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	3 (100.0)	2 (66.7)	5 (100.0)	2 (40.0)
Pharmacist	3 (100.0)	0 (0.0)	4 (80.0)	0 (0.0)
Lab Technician	3 (100.0)	0 (0.0)	5 (100.0)	0 (0.0)
Physiotherapist	2 (66.7)	1 (33.3)	5 (100.0)	1 (20.0)
Radiographer	3 (100.0)	1 (33.3)	5 (100.0)	0 (0.0)
O.T technician	0 (0.0)	0 (0.0)	5 (100.0)	0 (0.0)
Social worker	0 (0.0)	0 (0.0)	3 (60.0)	0 (0.0)
Data Entry Operator	3 (100.0)	1 (33.3)	5 (100.0)	0 (0.0)
Rehabilitation therapist	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Counsellor	3 (100.0)	1 (33.3)	5 (100.0)	0 (0.0)
Others	2 (66.7)	2 (66.7)	5 (100.0)	3 (60.0)

3.14.6 Availability of prevention/treatment procedures

	CHC (n=3)	DH(n=5)
HPV Vaccination	3 (100.0)	5 (100.0)
General surgical procedures	2 (66.7)	5 (100.0)
Laparoscopic procedures	0 (0.0)	1 (20.0)
Radiotherapy	1 (33.3)	1 (20.0)
Palliative care	1 (33.3)	1 (20.0)

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

	CHC (n=3)	DH(n=5)
Laboratory and other investigations[1]		
Routine blood investigations[2]	3 (100.0)	5 (100.0)
Biochemistry[3]	3 (100.0)	5 (100.0)
Cardiac investigations [4]	3 (100.0)	5 (100.0)
Radiology[5]	3 (100.0)	5 (100.0)
Endoscopy[6]	0 (0.0)	2 (40.0)
Histopathology	0 (0.0)	1 (20.0)
Cervical cancer screening[7]	3 (100.0)	4 (80.0)
Available equipment in stock		
Essential[8]	3 (100.0)	5 (100.0)
Imaging [9]	0 (0.0)	2 (40.0)
Cardiopulmonary[10]	0 (0.0)	1 (20.0)
Dental[11]	3 (100.0)	5 (100.0)
Laboratory[12]	0 (0.0)	1 (20.0)
Cancer screening[13]	0 (0.0)	1 (20.0)

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

D. Profile of adults with cancer

3.15.1 Number of cancer patients by place of residence and gender

	Urban	Rural	Male	Female	Combined
Number of cancer patients	1	13	5	9	14

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

	Urban (n=1)	Rural (n=13)	Male (n=5)	Female (n=9)	Combined (n=14)
Age at diagnosis	50.1	51.1	54.4	49.3	51.1
Duration of cancer *	179.0	62.7	63.0	75.4	71.0

*months

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

	Urban (n=1)	Rural (n=13)	Male (n=5)	Female (n=9)	Combined (n=14)
Site of Cancer					
Oesophagus	0 (0.0)	1 (7.7)	1 (20.0)	0 (0.0)	1 (7.1)
Lung	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Stomach	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Throat	0 (0.0)	1 (7.7)	1 (20.0)	0 (0.0)	1 (7.1)
Mouth	0 (0.0)	2 (15.4)	1 (20.0)	1 (11.1)	2 (14.3)
Cervix	0 (0.0)	4 (30.8)	0 (0.0)	4 (44.4)	4 (28.6)
Gall bladder	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Breast	1 (100.0)	2 (15.4)	0 (0.0)	3 (33.3)	3 (21.4)
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	0 (0.0)	3 (23.1)	1 (20.0)	2 (22.2)	3 (21.4)
Heart Failure	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Stroke	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	0 (0.0)	1 (7.7)	1 (20.0)	0 (0.0)	1 (7.1)

3.15.4 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=1)	Rural (n=13)	Male (n=5)	Female (n=9)	Combined (n=14)
Type of health facility / health care provider					
Within the state	1 (100.0)	6 (46.2)	1 (20.0)	6 (66.7)	7 (50.0)
Outside the state*	0 (0.0)	7 (53.8)	4 (80.0)	3 (33.3)	7 (50.0)
Govt facility	1 (100.0)	9 (69.2)	3 (60.0)	7 (77.8)	10 (71.4)
Private facility**	0 (0.0)	6 (46.2)	3 (60.0)	3 (33.3)	6 (42.9)
Self-healers	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Alternative form of medicine (AYUSH)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Others	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*

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

	Urban (n=1)	Rural (n=13)	Male (n=5)	Female (n=9)	Combined (n=14)
Self-Financing/Taking loan/Sale of assets	1 (100)	10 (76.9)	4 (80.0)	7 (77.8)	11 (78.6)
Family support	1 (100)	7 (53.8)	3 (60)	5 (55.6)	8 (57.1)
Health Insurance Schemes/Hospital Incentives	0 (0.0)	6 (46.2)	3(60.0)	3 (33.3)	14 (100)

Key Findings

I. Behavioural risk factors

A. Tobacco use

- The prevalence of any form of tobacco use (smoked or smokeless) was 29.3. The prevalence of smokeless tobacco use (16.3%) was found to be almost equal to smoked tobacco use (16.2%).
- Of the current tobacco(smoked or smokeless) users 26.2% of them were daily users.
- The mean age at initiation of use was 20.1 years.
- The average duration of tobacco use among past smokers was 18.2 years
- Around 11.7% of the smoked tobacco users had made self-attempts to quit smoking, while only 1.1% had been advised to quit tobacco use by doctor/health worker

B. Exposure to second hand smoke

- Around 47.8% reported exposure to second hand tobacco smoke in the past 30 days, either at home, during travel or at the work place.

C. Non tobacco betel products

- Nearly 20.7% 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(17.7%) was highest among current users.

D. Alcohol use

- Nearly 35.4% of the respondents had consumed alcohol over the past 12 months, while 33.3% had consumed alcohol over the past 30 days.
- The mean age of initiation of alcohol use was 21.7 years
- Among those who consumed alcohol in the past 12 months, 5.3% were daily users and 0.4% felt the need for a drink first thing in the morning every day.
- Heavy episodic drinking was seen in 21.2% of the respondents.
- 1.9% of the respondents had been advised to quit alcohol use by doctor/health worker

E. Diet

- The average number of days of fruit intake was 2.5 days per week
- The average number of servings of fruits and vegetables was 2.6 per day.
- Nearly 1.4% of the respondents consumed red meat and 40% preserved/salt curated and fermented products.
- Close to 98% 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 47.1% in males and 39.6% in females.
- Around 40.4% respondents were pre-hypertensive.

III Overweight/Obesity

- According to WHO cut off values, 30.3% of the respondents were overweight, while 8% were obese.
- The prevalence of obesity was higher in females (10.4%) than males (6.0%).
- A little more than half of the respondents had central obesity (55.3%)

IV Raised blood glucose

- The prevalence of raised fasting blood glucose was 6.7%.

V Clustering of risk factors

- Around 35.5% of respondents had a clustering of≥ 3 risk factors

VI Health seeking behaviour

- Three-fourth of the respondents (75.6%) had ever had their blood pressure measured in life.
- Among those with raised blood pressure, only 21.7% had their blood pressure under control.
- Likewise, 38% of the respondents had ever had their blood glucose measured in life.
- Of those with raised blood glucose 54% had it under control.

VII Cancer screening

- Almost 53.7% of the respondents were aware of cancer screening for the three common cancers: Oral, breast and cervical cancer.

VIII: Health system response:

- Around 79% of the surveyed PHCs' provided cancer screening services.
- Over 70% of the PHCs' had availability of Counselling facilities for risk behaviour through a counsellor or specialized personnel available in house.
- Nearly 75% of the Medical Officers positioned at the PHCs' Proportion had been trained for NPCDCS/NHM (NCD related)/State program.

- None of the CHCs' and around 60% District Hospitals provided cancer screening services.
- NoAvailability of Gynecologists was seen in CHCs and 80% availability was seen in District Hospitals. Around 33.3% of the CHCs had Physicians trained for NPCDCS/NHM (NCD related)/State program present as compared to District hospitals with 100%.
- HPV vaccination was provided by all of the CHCs & DHs

Recommendations

1. Cancer is declared as notifiable disease in the state of Sikkim but it is yet to be implemented in the field.

2. I.E.C. on the harmful effect of second-hand smoking needs to be disseminated widely as people takes it very lightly. There is complete ban of smoking in public and selling gutkas is already exist in Sikkim state but it is yet to be followed properly.

3. As the alcohol consumption is high in Sikkim therefore the state needs to develop an action plan as to reduce its intake and its harmful effects to be widely discussed.

4. Health promoting behaviour needs to be emphasized from the childhood period.

5. Adolescent health is to be strengthened through Rastriya Kishor SwasthaKaryakaram (RKSK). Sexual and reproductive health issues should be focussed.

6. Advocacy on healthy eating like daily intake of fruits should be included in the meal

7. Hypertension and diabetes are also found to be very common in the state, it needs to be addressed to the NCD section of the National Health MIssion.

8. Regarding the health system response, the state needs to depute skilled man power in field of gynaecology, surgery radiologists and paediatrics. There is need of cancer care facilities, upgrade the diagnostic facilities and trained manpower in the oncology section.

9. Palliative cancer care facilities needs to be setup in the state.

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Photographs of the Survey