

# Monitoring survey of cancer risk factors and health system response in North East Region (NER)

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**MANIPUR**

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**Indian Council of Medical Research, New Delhi**

**Ministry of Health & Family Welfare, Government of India**

## **MONITORING SURVEY OF CANCER RISK FACTORS AND HEALTH SYSTEM RESPONSE IN NORTH EAST REGION (NER) OF INDIA**

Cancer is among the top five leading causes of death in the State. According to the reports of the National Cancer Registry Programme (NCRP), the incidence, mortality, and cumulative risk of developing cancer has been consistently high in the North-eastern Region (NER) of India. In Manipur state, cancer of lung, stomach and nasopharynx were the most common cancers among males. Cancer of breast, lung and cervix uteri were the most common cancers among females. The PBCR of Manipur is situated in Regional Institute of Medical Sciences, Imphal. The PBCR was established in 2003 with 17 sources of registrations.

This survey was undertaken as a part of cancer research in the North East Region (CaRes NER), a multidisciplinary programme run by the ICMR-NCDIR, Bengaluru to prevent and control cancer in the north-eastern states. Its aims to create a baseline database of cancer and other NCD-related risk factors that can be compared in future surveys, which would help establish an NCD risk factor surveillance program. As cancer registration is an important aspect of cancer surveillance, continued risk factor surveillance will show a link between cancer incidence and risk factors. Moreover, with the set time-bound and attempts provided by NCD targets (10) and indicators (21) by 2025 to achieve universal health coverage, ongoing surveillance would determine the outcomes of national health programmes. Therefore, establishing a surveillance system is of vital importance to track changes and evaluate interventions.

Indicators		Urban	Rural	Men	Women	Total
<b>Tobacco use (%)</b>						
1	Current tobacco use (both smoke and smokeless)	5.6	13.9	18.7	0.9	9.7
2	Daily tobacco use					
	Either form of tobacco (smoke and/or smokeless)	41.0	45.7	53.6	33.2	43.3
	Smoked tobacco					
	Bidis	3.7	11.1	7.2	29.2	8.5
	Manufactured Cigarettes	55.8	62.0	60.3	51.7	59.8
	Hand-rolled Cigarettes	1.1	6.9	5.0	2.4	4.8
	Smokeless tobacco					
	Chewing tobacco	26.4	25.4	27.9	23.4	25.9
	Pan with Zarda, Betel with Tobacco quid	44.8	44.5	33.8	58.2	44.6
	Tuibur, Tobacco Snuff, by mouth	19.4	20.6	32.3	4.5	20.0
3	Smokers who attempted to quit the habit (smoked tobacco)	13.1	12.6	11.0	41.3	12.8
4	Adults exposed to second hand smoke at home	16.9	19.9	17.0	19.8	18.4
5	Adults exposed to second hand at workplace	16.0	21.7	29.6	8.2	18.8
<b>Alcohol use (%)</b>						
6	Lifetime abstainers	82.3	76.7	59.9	98.8	79.6
7	Current alcohol use (consumed in last 12 months)	14.8	17.9	32.0	1.0	16.3

8	Those who engaged in heavy episodic drinking <sup>1</sup> (18+ years)	9.7	13.3	22.5	0.7	11.5
<b>Dietary practices</b>						
9	Mean servings of fruits and/or vegetables per day	1.9	1.9	1.8	2.0	1.9
10	Mean intake of red meat in a week	1.8	1.8	1.8	1.9	1.8
11	Mean intake of either Birds/Poultry or Fish or Red Meat*(Days/week)	2.1	2.3	2.2	2.2	2.2
12	Mean intake of preserved/salt curated and fermented products (Days/week)	4.5	4.3	4.2	4.6	4.4
<b>Physical activity (%)</b>						
13	Insufficient physical activity <sup>3</sup>	10.6	6.2	10.1	6.8	8.5
14	Work related activity at home/workplace	85.8	89.8	81.8	93.6	87.8
<b>Overweight and Obesity (%)</b>						
15	Overweight (BMI 25.0 – 29.9 Kg/m <sup>2</sup> )	34.3	30.6	32.4	32.6	32.5
16	Obesity (BMI $\geq$ 30.0 Kg/m <sup>2</sup> )	10.7	8.8	7.4	12.2	9.8
17	Central obesity <sup>4</sup> (18+ years)	43.3	32.1	17.8	58.0	37.9
<b>Raised blood pressure (%)</b>						
18	Prevalence of raised blood pressure <sup>5</sup>	36.8	29.5	36.4	30.1	33.2
19	Pre-hypertensive <sup>#</sup>	50.2	53.7	53.8	49.9	51.9
<b>Raised blood glucose (%)</b>						
20	Fasting blood glucose ( $\geq$ 126 mg/dl) 18+ years	6.3	3.6	5.4	4.6	5.0
21	Prevalence of raised blood glucose <sup>6</sup>	7.9	4.7	6.5	6.2	6.3
<b>Composite risk assessment (%)</b>						
22	Clustering of risk factors <sup>7</sup> (18+years)	44.1	35.0	46.2	33.3	39.7
*If an adult consumed more than one meat item, the maximum number of days for any one item was considered. #Pre – hypertensive - where SBP = 120-139, DBP = 80-89						

<b>HEALTH SEEKING BEHAVIOURS AND MANAGEMENT INDICATORS</b>						
Disease awareness, treatment and control indicators		<b>Urban</b>	<b>Rural</b>	<b>Men</b>	<b>Women</b>	<b>Total</b>
<b>Raised blood glucose (%)</b>						
1	Blood glucose measured					
	Measured ever in life	35.6	24.7	21.5	38.8	30.2
	Measured in last 12 months	20.0	12.3	11.1	21.4	16.3
2	Among persons with raised blood glucose					
	On treatment in last 2 weeks	67.2	65.5	53.8	85.2	66.6
	Blood glucose under control <sup>8</sup>	41.1	58.5	33.4	65.6	46.6
3	Among those aware of raised blood glucose					
	Currently consulting allopathic practitioner in public sector	47.2	22.5	33.1	48.5	39.4
	Currently consulting allopathic practitioner from private/ NGO health facility	44.4	60.3	52.4	45.2	49.4
<b>Raised blood pressure (%)</b>						
4	Blood pressure measured					
	Measured ever in life	59.9	47.8	47.1	60.8	54.0
	Measured in last 12 months	41.1	26.9	28.4	39.8	34.2
5	Among persons with raised blood pressure					
	On treatment in last 2 weeks	46.8	44.6	42.8	50.2	46.1
	Blood pressure under control <sup>9</sup>	15.4	28.6	17.0	23.8	20.0
6	Among those aware of raised blood pressure					
	Currently consulting allopathic practitioner in public sector	41.1	47.2	45.5	40.4	43.2

	Currently consulting allopathic practitioner from private/ NGO health facility	36.1	26.2	28.2	38.3	32.7
<b>Lifestyle advice (%)</b>						
7	Among those who reported contact with a doctor / health worker in past 1 year and were advised					
	Against tobacco use	2.7	2.0	3.8	0.9	2.3
	Against alcohol use*	1.9	1.4	3.1	0.2	1.7
	Increase in physical activity*	1.4	1.3	2.1	0.6	1.3
	Reduction/maintenance of weight*	1.9	0.9	1.6	1.2	1.4
	To check blood pressure*	53.3	44.3	42.3	55.3	48.9
	To check blood glucose*	33.2	23.7	20.8	36.1	28.6
<b>Cancer screening (%)</b>						
8	Awareness of cancer screening*	6.9	4.0	6.3	4.7	5.5
9	Ever underwent oral cavity examination for cancer	0.3	-	-	-	0.1
10	Women who ever underwent screening for breast cancer <sup>10</sup>	0.5	0.3	-	-	0.4
11	Women who ever underwent screening for cervical cancer <sup>11</sup>	-	0.6	-	-	0.3
<b>Received advice to screen for cancer by doctor/health worker in past 12 months (%)</b>						
	Oral Cancer	0.0	0.0	0.0	0.0	0.0
	Breast Cancer <sup>#</sup>	0.0	0.5	0.0	0.2	0.2
	Cervical Cancer <sup>#</sup>	0.0	0.5	0.0	0.2	0.2
*18+ years #Among women respondents						

## HEALTH SYSTEM RESPONSE INDICATORS

Public Primary Health Care Facilities		Urban (n = 7)	Rural (n = 26)	Total (n = 33)
Availability of following facilities <sup>12</sup> (%)				
1	Written standard treatment guidelines under NPCDCS <sup>13</sup>	57.1	42.3	45.5
2	Cancer screening for oral, breast and cervical cancers	00.0	00.0	00.0
3	Counselling facilities for risk behavior through counsellor or specialized personnel (in house)			
	Tobacco cessation	57.1	46.2	48.5
	Alcohol Cessation	57.1	38.5	42.4
4	Laboratory procedures for cancer screening	14.3	7.7	9.1
5	Equipment & supplies for cancer screening	71.4	61.5	63.6
6	Human Resources			
	Medical Officer (MBBS)	100.0	88.5	90.9
	Pharmacist	85.7	84.6	84.8
	Lab Technician	71.4	53.8	57.6

Public Secondary Health Care Facilities		Community Health Centers (n = 5)	District Hospitals (n = 6)
Availability of following facilities (%)			
1	Written standard treatment guidelines under NPCDCS <sup>13</sup>	<b>40.0</b>	<b>33.3</b>
2	Cancer screening for oral, breast and cervical cancers	0.0	33.3
3	Day care facility for management of cancer patients (for Chemotherapy)0.0	0.0	40.0
4	Counselling facilities for risk behavior through counsellor or specialized personnel (in house)		
	Tobacco cessation	60.0	66.7
	Alcohol Cessation	60.0	66.7
5	Laboratory procedures for cervical cancer screening	0.0	16.7
6	Equipment & supplies for cancer screening	0.0	16.7
7	Human Resources		
	Medicine	40.0	83.3
	Surgery	00.0	66.7
	Gynecology	20.0	66.7
	General duty Medical Officer	100.0	100.0
8	HPV Vaccination	0.0	16.7
9	Palliative care	60.0	66.7

Private Secondary Health Care Facilities		Urban (n =4 )	Rural (n =0 )	Total (n = 4)
Availability of following facilities (%)				
1	Cancer screening			
	Oral cancer	<b>00.0</b>	<b>00.0</b>	<b>00.0</b>
	Cervical cancer	00.0	00.0	00.0
	Breast Cancer	00.0	00.0	00.0
2	Standard treatment guidelines for cancer	50.0	00.0	50.0
3	Counselling facilities for risk behavior through counsellor or specialized personnel (in house)			
	Tobacco cessation	00.0	00.0	00.0
	Alcohol Cessation	00.0	00.0	00.0
4	Laboratory procedures for cancer screening	00.0	00.0	00.0
5	Human Resources			
	Medical Officer (MBBS and above)	100.0	00.0	100.0
	Lab Technician	100.0	00.0	100.0
6	HPV Vaccination	75.0	0.0	75.0
7	Palliative care	0.0	0.0	0.0

## Profile of adults with cancer

Indicators		Urban	Rural	Men	Women	Combined
1	Number of cancer patients	14	11	12	13	25
2	Mean age at diagnosis (%)	52.6	48.4	49.8	51.6	50.8
3	Site of cancer and other chronic illness among cancer patients (%)					
	Breast	07.1	18.2	00.0	23.1	12.0
	Throat	07.1	18.2	25.0	00.0	12.0
	Cervix	14.3	0.0	0.0	15.4	8.0
	Lung	7.1	9.1	16.7	0.0	8.0
4	Sought health care (%)					
	Within the state	53.8	63.6	58.3	58.3	58.3
	Outside the state*	46.2	36.4	41.7	41.7	41.7
5	Sought treatment at (%)					
	Government health facility	42.9	90.9	58.3	69.2	64.0
	Private health facility**	50.0	9.1	41.7	23.1	32.0
6	Source of finance (%)					
	Self-Financing/Taking loan/Sale of assets	42.9	36.4	41.7	38.5	40.0
	Health Insurance Schemes/Hospital Incentives	07.1	18.2	08.3	15.4	12.0
*Outside the state includes Other states within NER and Outside NER						
**Private facility includes within the state, Other states within NER and Outside NER						

## Definitions

1	Heavy episodic drinking constitutes those who reported drinking $\geq 6$ standard drinks (equivalent to 60 grams of pure alcohol or ethanol) in a single drinking occasion in last 30 days of interview.
2	Among those who consumed fruits and/or vegetables, one standard serving of fruits and/or vegetables was equivalent to 80-100 grams.
3	Insufficient physical activity constitutes those engaged in $< 150$ 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 $< 600$ MET minutes per week.
4	Central obesity was defined as having waist circumference of $\geq 90$ cm in males and $\geq 80$ cm in females.
5	Raised blood pressure was when the systolic blood pressure $\geq 140$ mm of Hg and/or diastolic blood pressure $\geq 90$ mm of Hg including those on medication for raised BP among adults aged 18-69 years.
6	Raised fasting blood glucose were when the values of fasting blood glucose were $\geq 126$ mg/dl including those on medication for raised blood glucose among adults aged 18-69 years.
7	Clustering of risk factors was presence of $\geq 3$ risk factors which include, daily tobacco use, inadequate fruits and/or vegetables intake, insufficient physical activity, overweight (BMI $\geq 25.0$ Kg/m <sup>2</sup> ), raised blood pressure (including those on medication) and raised fasting blood glucose (including those on medication) among adults aged 18–69 years.
8	Control of blood glucose was defined as fasting blood glucose values are $< 126$ mg/dl among those with raised blood glucose.
9	Control of hypertension was defined as systolic blood pressure of $< 140$ mmHg and diastolic blood pressure of $< 90$ mmHg among those with raised blood pressure.
10	Screening for breast cancer was defined as any clinical breast examination ever done in women $\geq 30$ years of age by a healthcare professional for breast cancer
11	Screening for cervical cancer was defined as any screening tests ever done for cervical cancer in women aged between 30-49 years by either/and Visual Inspection with Acetic acid (VIA), pap smear or Human Papilloma Virus (HPV) test.
12	Availability of an item was defined as being available within the facility.
13	NPCDCS - National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Disease and Stroke

## References

- Report of National Cancer Registry Programme (ICMR-NCDIR), Bengaluru, India 2020.
- ICMR-NCDIR, Report on Monitoring Survey of Cancer Risk Factors and Health System Response in North East Region (NER) of India, 2022

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