

## Indian Hearts Lacking Care

# First IHL Care Study Report 2022

A study to understand the double-trouble of Obesity & Hypertension that contribute to increasing the CVDs amongst the people working with corporates



# CVDs Burden in India

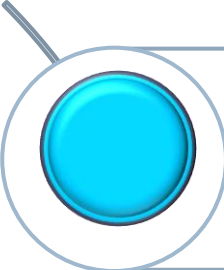
Cardiovascular diseases accounted for 30.9% of all deaths in 1998 and 10.3% of disability adjusted life year loss. By 2020, 85% of the global cardiovascular disease burden is expected to be borne by developing nations. It is estimated that CVDs cases in India are likely to increase to 137% in men and 120% in women by the end of this year, 2020 as compared to base year of 1998.\*

The number of deaths caused by Coronary Artery Disease (CAD) in developing countries is estimated at 9 million in 1990. Of them, 2.4 million cases are causing in India. The overall cardiovascular mortality in Indians is predicted to rise by 103% in men and 90% in women between 1985 and 2015.

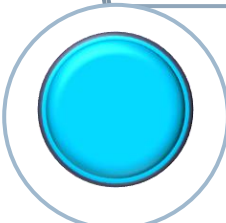
Coronary Artery Disease (CAD) occurs at a younger age in Indians with over 50% of Cardiovascular Disease (CVD) mortality occurring in individuals aged less than 50 years. Although several risk factors have been suggested; smoking, dyslipidemia and hypertension are major risk factors in the young. In this review, we have pooled the current evidence on Ischemic Heart Disease (IHD) in young (20-40 years) and provided an opinion for the effective management of IHD in young Indians.

\* <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2825638/>

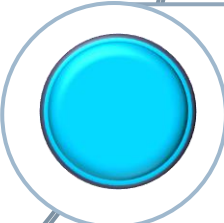
# Background, Study Need and Objectives



In view of the rising incidence of CVDs in the country amongst younger population, there is a high chance of individuals to develop Cardiovascular Disorders. It is important to spread the awareness on the importance of making the desired lifestyle changes to lead healthy living, and focus on preventive measures.



To curb the rising incidence, we need to understand the role of preventive diagnosis through PHYGITAL (Physical+Digital) healthcare ecosystem towards reducing heart risk/diabetes/hypertension in Metros so as to help Indian population get preventive screening done as Indian Hearts are lacking care.



To inculcate awareness of lifestyle disorders and role of Blood pressure, Obesity, ECG., its prevention, treatment and control for cardiovascular risk amongst the Indian population. To publish the findings in mass media to create awareness and spread the message how to take care of your heart for healthy living.

# Design

1. Respondents Demographics - Geo

2. Gender Spread

3. Age Spread

4. Geo v/s Age

5. BMI Class

6. BP Class

7. SPO2 Class

# Scope

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1. Individuals who have taken health check up's

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2. 4 Cities : Mumbai | Chennai | Delhi | Bangalore

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3. Respondents test results on IHL portal

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4. Each respondent was screening via IHL health kiosk 'hPod' for BP, BMI, Temperature, SPO2, ECG tests etc.

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5. Sample Size : 1461 ( 300+ each centres X 4centres)

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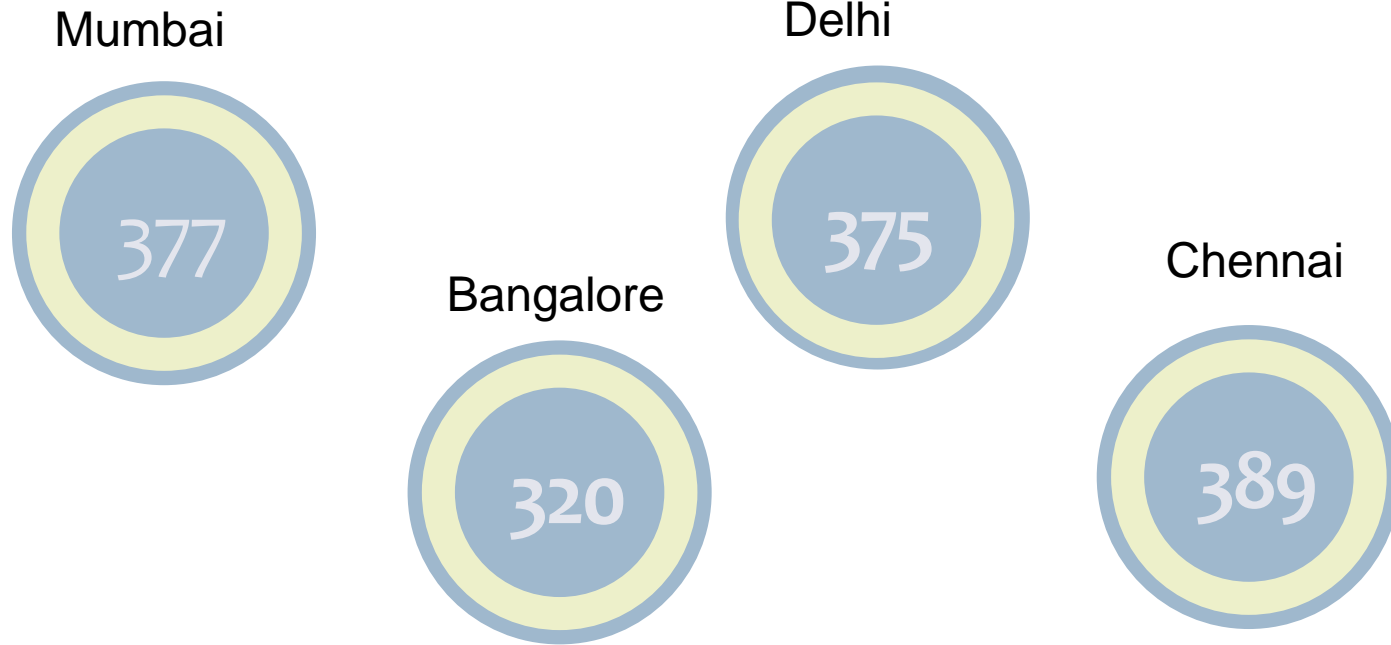


# Research Methodology

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1. IHL hPod Test results were made into data points to make analysis
  2. IHL hPod portal collected basic information on its app for registration
  3. All the data was digitally downloaded from an anonymized analytical portal
  4. Gender and age data was collected with random sampling method
  5. The consented respondents who were willing to take a test on IHL hPod were selected for this research
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# Sample respondents covered cities n = 1461



# Executive Summary

## ▶ Overall

- The study covers 77% males and 23% females.
- In the age bracket of 26-40 years, 46% are in the pro CVD risk and another 34% are in the high CVD risk age group of 41-60 years.
- Mumbai (65%) and Delhi (48%) covers the pro CVD risk age bracket of 26-40 years while Bangalore (41%) besides Delhi (48%) are included in the age bracket of 41-60 years. This study also covered 16% from the young population of less than 25 years mostly from Chennai (43%).





## Executive Summary

### ▶ BP and BMI

- There is a strong correlation between BMI scores and BP risk which is observed that **more the BMI scores higher the BP risk.**
- High BP is seen most in Delhi (23%) and Mumbai (15%). It is seen most in men which goes up to 30% in New Delhi while maintaining at the same level in Mumbai (15%)
- 30% men in New Delhi and women in Mumbai are more prone to High BP while both men (50%) and women (25%) in Bangalore are more prone to BP risk.
- Both risk age groups ( 25-40 years & 41-60 years) are at BP risk which is common in men than women.
- Same is the case with High BP which is also prevailed most with men than women. However, in the age group of 60+ years have higher stake with high BP in men than women with significant lead.



# BP Class across BMI Class

## BMI levels

BP Class V/s BMI

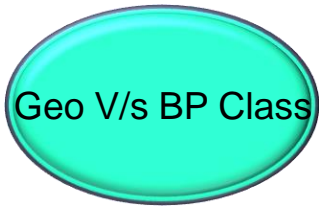
BP class categories

BMI Slabs v/s BP Class	%					No. of respondents
	Underweight	Normal	Overweight	Obese	Total	Total
Normal	70%	58%	45%	39%	47%	93
Acceptable	10%	9%	14%	20%	15%	304
At Risk	16%	21%	27%	26%	25%	626
High BP	4%	13%	14%	15%	13%	438
	100%	100%	100%	100%		
No. of respondents	240	674	497	50		1461

There is a strong correlation between BMI and BP class. An overweight or obese BMI increases BP risk by 41%. A majority of obese or overweight people have high blood pressure (30%) or have BP risk (~53)%

# BP Class across geography

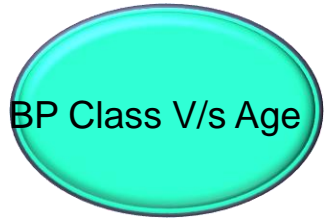
In % respondents



Age Slabs v/s BP Class	% Bangalore	% Chennai	% Mumbai	% Delhi	% Total	% Total
Normal	37%	59%	50%	42%	47%	693
Acceptable	10%	18%	11%	18%	15%	212
At Risk	43%	18%	25%	16%	25%	362
High BP	10%	5%	15%	23%	13%	194
Total	100%	100%	100%	100%	100%	
No. of respondents	320	389	377	375		1461

According to BP cases, 25% of respondents are considered at risk and have high blood pressure to the tune of 13%. Delhi shows the most high blood pressure cases at 23% against the national average of 13%. Bangalore and Mumbai are also at risk.

# BP class across age slabs



Age Slabs v/s BP Class	% < 25 years	% 26-40	% 41-60	% >60	% Total	No. of respondents Total
Normal	74%	51%	34%	10%	47%	693
Acceptable	8%	17%	14%	14%	15%	212
At Risk	13%	19%	35%	48%	25%	362
High BP	5%	13%	17%	28%	13%	194
	100%	100%	100%	100%		
No. of respondents	240	674	497	50		1461

As far as the age group is concerned, 76% of senior citizen (60+) and 52% of high risk age group (41-60 years) are having at and High BP risk. Half of the pro-risk age group (26-40 years of age) have normal blood pressure. The silver lining is that 32% are at risk. Even young adults (25 years and younger) are at risk for high blood pressure to the extent of 33%.

# BMI Scores/BP risk on Gender

Men						Women					
BP/BMI	underweight	normal	overweight	obese	Total	BP/BMI	underweight	normal	overweight	obese	Total
Normal	67%	52%	41%	32%	43%	Normal	79%	84%	60%	55%	64%
Acceptable	10%	11%	14%	19%	15%	Acceptable	8%	2%	13%	23%	15%
At Risk	17%	24%	30%	29%	28%	At Risk	13%	7%	16%	18%	15%
High BP	6%	14%	14%	20%	15%	High BP	0%	7%	11%	5%	7%
<b>Grand Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>Grand Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>



## BP Class across gender

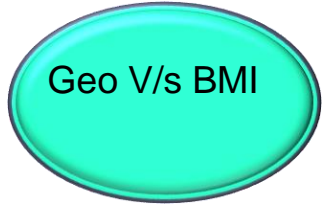
Gender V/s BP Class

BP Class / Gender	Male %	Female %	Total %	No. of respondents Total
Normal	69%	31%	47%	693
Acceptable	77%	23%	15%	212
At Risk	86%	14%	25%	362
High BP	88%	12%	13%	194
Total	77%	23%	100%	
No. of respondents	1124	337		1461

Generally, males are more prone to BP risk (86%) having High Blood Pressure (88%), whereas females seem to have normal (31%) or acceptable level of blood pressure (23%).

# BMI across geography

In % respondents

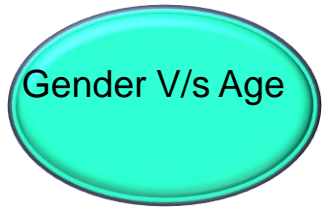


Age Slabs v/s BMI Class	% Bangalore	% Chennai	% Mumbai	% Delhi	% Total	% Total
Underweight	1%	15%	7%	1%	6%	93
Normal	25%	22%	26%	11%	21%	304
Overweight	47%	38%	38%	50%	43%	626
Obese	27%	25%	30%	38%	30%	438
Total	100%	100%	100%	100%	100%	
No. of respondents	320	389	377	375		1461

Approximately 43% of the population is overweight. Bangalore and Delhi have the highest prevalence of overweight at around 47%. Obesity was the next most common problem with 30% of respondents, where it was seen most in Delhi (38%). 21% of respondents are Normal, which is usually more or less the same around 25% in each city. The underweight rate is 6%, which is the most prevalent in Chennai (15%).



# BMI across gender



BMI / Gender	% Male	% Female	% Total	No. of respondents
Underweight	74%	26%	100%	93
Normal	81%	19%	100%	304
Overweight	80%	20%	100%	626
Obese	71%	29%	100%	438
Total	77%	23%	100%	
No. of respondents	1124	337		1461

In the study, overweight is more common among males, while obesity is more prevalent among females. In general, males tend to be more proportionate in Normal.



# BMI across age slabs

Gender V/s Age

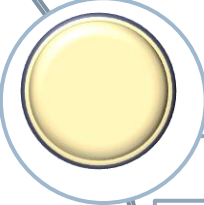
Age Slabs v/s BMI Class	%	%	%	%	%	No. of respondents
	< 25 years	26-40	41-60	>60	Total	Total
Underweight	22%	5%	1%	2%	6%	93
Normal	34%	18%	18%	18%	21%	304
Overweight	37%	42%	48%	38%	43%	626
Obese	8%	35%	33%	42%	30%	438
Total	100%	100%	100%	100%	100%	
No. of respondents	240	674	497	50		1461

Overweight is more common in those aged 41-60.

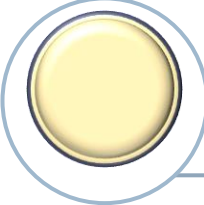
Obesity is more common in those aged 26-60.

Those aged less than 25 are more likely to be normal weight or underweight.

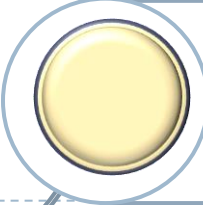
## Sample Distribution & Analysis



The study covered 34% of the high-risk age group (41 years or more) and 46% of the pro-risk age group (26-40 years). Mumbai and Delhi cover mostly pro-risk categories, with 65% and 48% respectively, against 34% the overall average. Bangalore covers high-risk categories the most.

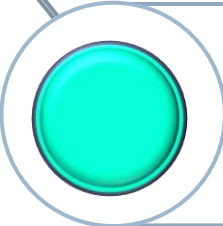


77% of the study's participants are males and 23% are females. In Mumbai, a majority of men are covered, while in the other cities, it is a bit more or less the same ratio as in India as a whole.

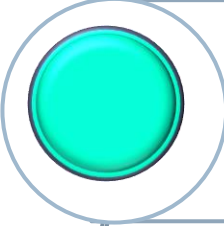


Several important insights have been revealed by the study, such as the high blood pressure affects 88% of males and 12% of females. Delhi registered high blood pressure cases (23%) while Bangalore registered at 43% who are prone to BP risk followed by Mumbai at 25%.

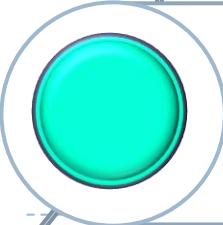
## Key Findings : BP & BMI Levels



Among the high blood pressure cases, 77% are male as compared to 23% are females which is exactly as per the sample break up. Delhi and Mumbai have reported more high BP cases at 23% and 15% respectively against the average of 13%. On the other hand, the BP risk prevails in Bangalore the most up to 43%.



The prevalence of obesity is highest among the 60+ age group at 42%. 35% of pro-risk age group (26-40 years) and 33% of High risk age group (41-60 years) are also reported obese. Overweight cases are more or less the same in both genders,. On the contrary, underweight is reported more among the young group (less than 25 years) to the extent of 22% against an average of 6%.



Delhi reported relatively more obese patients (38%) than other cities in the country, which are also in regime of 25% to 30% which is a serious concern. In addition, Delhi and Bangalore reported more overweight patients by 50% and 47% respectively. Chennai has more underweight persons (15%) than the average (6%).



HEAL Foundation — an offshoot of HEAL (Health Education & Awareness League) is a social advocacy group that strives to establish synergy and facilitate meaningful communication amongst social scientists, developmental agencies, health communicators, research scientists, doctors, and policy-makers. It aims to raise public awareness on health issues to bring desirable behavioural changes in the masses to ensure healthy living. Precisely, HEAL Foundation is synonymous with Healthcare Communication. Visit <https://healfoundation.in/>



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IHL (India Health Link) is a wellness care company based in India, building a connected 'user centric' healthcare ecosystem through its advanced PHYGITAL (Physical+Digital) platform and award-winning health station – "hPod" made in India. IHL caters directly to its members/users for managing their overall health via proprietary Personal Health Record (PHR) system and connected virtual healthcare marketplace. It also complements corporate wellness and heart health wellness. Visit <https://indiahealthlink.com/>



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# ABSTRACT

## Background

The World Health Organization (WHO) revealed that India accounts for one-fifth of all non-communicable diseases (NCDs) related deaths worldwide. And most of these deaths are from the younger population. The Global Burden of Disease study stated that the cardiovascular disease (CVDs) death rate in India is 272 per 1,00,000, which is significantly higher than the global average of 235. Almost 2.63 million Indians died from CVDs in 2017, which was the leading cause of death in the country.

Today, we see a lot of young people are falling prey to heart attacks. About 33 per cent of individuals below the age of 50 years face a massive heart attack. Owing to the rising incidence of CVDs in the country amongst the younger population, there is a high chance of individuals developing Cardio Vascular Disorders. It is important to spread awareness on making the desired lifestyle changes to lead healthy living and focus on preventive measures.

This study highlights the need to curb the rising incidence of CVDs and to understand the role of preventive diagnosis through the PHYGITAL (Physical+Digital) healthcare ecosystem. The aim is to help reduce heart risk/diabetes/hypertension in the people living in Metro cities and work with corporates. In totality, to help the Indian population get their preventive screening done as Indian Hearts are lacking care.



## Methodology

Diagnostic test results of the patients were collected through Health ATMs from 4 metro cities – Mumbai, Delhi, Bangalore and Chennai. To analyse the current CVDs situation in India, data collected in the past year was considered to form inferences of the study. The test parameter included respondents' demographics, gender spread, age spread, geography v/s age, BMI Class, BP Class & SPO2 levels. Data were collected with a random sampling method.

## Results

A total of 1461 respondents participated wherein 46% of the respondents fell in the age group of 26-40 years. The study had 77% male and 23% female participation.

Indian Hearts Lacking Care study established a strong correlation between BMI and BP class. An overweight or obese BMI increases BP risk by 41%. A majority of obese or overweight people have high blood pressure (30%) or have BP risk (~53%).

## Conclusion

There is a strong correlation between BMI scores and BP risk. It is observed that the more the BMI scores, the higher the BP risk. High BP is seen most in Delhi (23%) and Mumbai (15%). It is seen mostly in men with up to 30% in New Delhi. While maintaining at the same level, it is 15% in Mumbai. 30% men in New Delhi and women in Mumbai are more prone to high BP, while both men (50%) and women (25%) in Bangalore are more prone to BP risk. Both risk age groups (25-40 years & 41-60 years) are at BP risk, which is most common in men than women. The same is the case with High BP, which is also prevailed most among men than women. However, the age group of 60+ years have a higher stake with high BP in men than women with a significant lead.

Hence, there is an urgent need to move from heart illness to heart wellness, which can be achieved only through predictive and preventive cardiology. Sedentary lifestyles and working habits have taken a toll on the 26-40 age group. Bad heart health, potbelly or central obesity are the most common sign of this. Men with a belly size of more than 90 cm and women with more than 80 cm of the waistline are vulnerable to a premature heart attack.