

**APPENDIX 1: INSTITUTIONAL ETHICS COMMITTEE  
APPROVAL**



## INDIAN YOGA ASSOCIATION

(A self-regulatory body of leading Yoga Institutions of India)  
Registered under Societies Registration Act of XXI, 1860, Registration No. S/63761/2008 dated 31.10.2008

Regd. Off.: **Morarji Desai National Institute of Yoga**  
68, Ashoka Road, New Delhi - 110001, India

Phone: +919810800689 | E-mail: iyayog@gmail.com

RES/IEC-IYA/001

Date: 16 Dec 2016

To,  
Dr. R. Nagarathna  
Principal Investigator

**Reference:**

“Yoga and Diabetes : Multi Centric Research Study” - Committee Approval of the above mentioned study.

Dear Dr. R. Nagarathna,

We have received from you the following study related documents vide your letter dated 15<sup>th</sup> oct 2016

1	Project Proposal
2	Informed consent form
3	Assessment tools

Institutional Ethics committee meeting was held on 5<sup>th</sup> Dec 2016 at Indian Yoga Association, Morarji Desai National Institute of Yoga, #68, Ashoka Road, New Delhi. Above documents were examined and discussed in the meeting. After due consideration, the committee has decided to approve conducting the aforementioned study.

This is to confirm that neither investigator nor any study staff participating in this study were involved in the voting procedures and decision making.

The institutional Ethics Committee is expected to be informed about the progress of the study / any changes in the protocol and patient information / informed consent. The investigators are also expected to submit a copy of the final report to IEC for records.

This approval is valid up to the completion of the study at the site.

Please submit to the IEC, the status report of the study as per the SOPs.

The Institutional Ethics Committee is organized & operates according to the requirements of GCP, Indian Council of Medical Research guidelines.

Best Wishes,

**Dr. Rabindra Acharya,**  
Member Secretary,  
Institutional Ethics Committee,  
Indian Yoga Association, New Delhi.

**APPENDIX 2: LIST OF PUBLICATIONS FROM THIS  
DOCTORAL THESIS**

The following article was published in Diabetes Research and Clinical Practice, the official journal of International Diabetes Federation (Impact factor 2019 of 3.58)

DIABETES RESEARCH AND CLINICAL PRACTICE 161 (2020) 108037



Contents available at ScienceDirect

Diabetes Research  
and Clinical Practice

journal homepage: [www.elsevier.com/locate/diabres](http://www.elsevier.com/locate/diabres)



International  
Diabetes  
Federation



## A composite of BMI and waist circumference may be a better obesity metric in Indians with high risk for type 2 diabetes: An analysis of NMB-2017, a nationwide cross-sectional study



Murali Venkatrao, Raghuram Nagarathna, Suchitra S. Patil, Amit Singh, S.K. Rajesh, Hongasandra Nagendra\*

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### ARTICLE INFO

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Obesity

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### ABSTRACT

**Aims:** Obesity measurement is a vital component of most type 2 diabetes screening tests; while studies had shown that waist circumference (WC) is a better predictor in South Asians, there is evidence that BMI is also effective. Our objective was to evaluate the efficacy of BMI<sub>WC</sub>, a composite measure, against BMI and WC.

**Methods:** Using data from a nationwide randomized cluster sample survey (NMB-2017), we analyzed 7496 adults at high risk for type 2 diabetes. WC, BMI, and BMI<sub>WC</sub> were evaluated using Odds Ratio (OR), and Classification scores (Sensitivity, Specificity, and Accuracy). These were validated using Indian Diabetes Risk Score (IDRS) by replacing WC with BMI and BMI<sub>WC</sub>, and calculating Sensitivity, Specificity, and Accuracy.

**Results:** BMI<sub>WC</sub> had higher OR (2.300) compared to WC (1.87) and BMI (2.26). WC, BMI, and BMI<sub>WC</sub> were all highly Sensitive (0.75, 0.81, 0.70 resp.). But BMI<sub>WC</sub> had significantly higher Specificity (0.36) when compared to WC and BMI (0.27 each). IDRS<sub>WC</sub>, IDRS<sub>BMI</sub>, and IDRS<sub>BMIWC</sub> were all highly Sensitive (0.87, 0.88, 0.82 resp.). But IDRS<sub>BMIWC</sub> had significantly higher Specificity (0.39) compared to IDRS<sub>WC</sub> and IDRS<sub>BMI</sub> (0.30, 0.31 resp.).

**Conclusions:** Both WC and BMI are good predictors of risk for T2DM, but BMI<sub>WC</sub> is a better predictor, with higher Specificity; this may indicate that Indians with high values of both central (high WC) and general (BMI > 23) obesity carry higher risk for type 2 diabetes than either one in isolation. Using BMI<sub>WC</sub> in IDRS improves its performance on Accuracy and Specificity.

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## **APPENDIX 3: NMB 2017 YOGA MODULE**

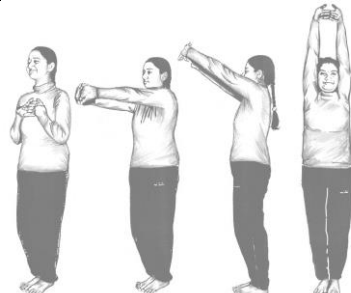
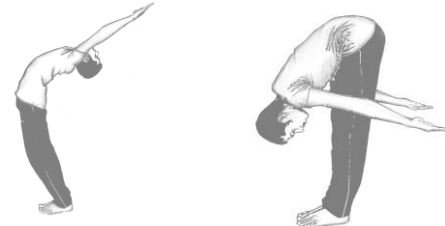

S.No	Name of the practice	Duration
1	<b>Starting Prayer:</b> Asatoma Sat Gamaya	2 mins
2	<b>Preparatory Sukshma Vyayamas and Shithililarana Practices</b> 1. Urdhvahastashvasan (1. Hand Stretch Breathing 3 rounds at 90°, 135°, 180° each) 2. Kati-Shakti Vikasaka (2. 3 rounds each) a. Forward and Backward Bending   b. Twisting 3. Sarvangapushthi (3 rounds clockwise, 3 rounds anti-clockwise)	6 mins
3	<b>Surya Namaskara (SN)</b> a. 10 steps fast Suryanamaskara 6 rounds. b. 12 steps slow Suryanamaskara 1 round. <i>(To be avoided by those with knee pain, cardiac problems, renal problem, low back pain, retinopathy and the elderly who are weak and not flexible; instead they can do Chair SN)</i> Modified version Chair SN: 7 rounds	9 mins
4	<b>Asanas</b> (1 minute per asana) 1. Standing (1 minute per asana) Trikonasana, Pravritta Trikonasana, Prasarita Padhastasana 2. Supine Jatara Parivartanasana, Pavanamuktasana, Viparitakarani 3. Prone Bhujanagasana, Dhaurasana followed by Pavanmuktasana 4. Sitting Mandukasana, Vakrasana /Ardhamatsyendrasana, Paschimatanasana, Ardha Ushtrasana At the end, relaxation with abdominal breathing in supine position ( <i>vishranti</i> ), 10-15 rounds (2 minutes)	15 mins
5	<b>Kriya</b> a. Agnisara: 1 minute   b. Kapalabhati <i>(@ 60 breaths per minute for 1 minute followed by rest for 1 minute)</i>	3 mins
6	<b>Pranayama</b> a. Nadishuddhi (for 6 minutes, with antarkumbhaka and jalandhar bandha for 2 sec) b. Bhramari (3 minutes)	9 mins
7	<b>Meditation</b> (For stress management for deep relaxation and silencing the mind) <b>Cyclic Meditation</b> (Those who are willing to practice techniques of relaxation evolved by their own institutes may do so)	15 mins
8	<b>Resolve</b> (I am completely healthy)	1 min
9	<b>Closing Prayer:</b> Sarvebhavantu Sukhinaha...	1 min
	<b>Total</b>	<b>60 mins</b>

**APPENDIX 4: DETAILS OF YOGIC PRACTICES USED IN  
NMB 2017**

## 13.1 STARTING PRAYER

ॐ असतोमा सद्गमय	<i>om asatomā sadgamaya</i>	<i>Aum. From falsehood, lead me to truth</i>
तमसोमा ज्योतिर्गमय	<i>tamasomā jyotirgamaya</i>	<i>From darkness, lead me to light</i>
मृत्योर्मा अमृतं गमय	<i>mṛtyormā amṛtaṃ gamaya</i>	<i>From death, lead me to immortality</i>
ॐ शान्तिः शान्तिः शान्तिः	<i>om śāntiḥ śāntiḥ śāntiḥ</i>	<i>Aum. Peace, peace, peace</i>




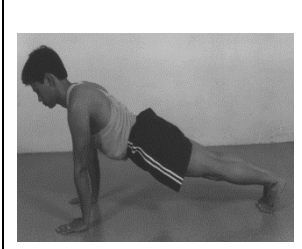

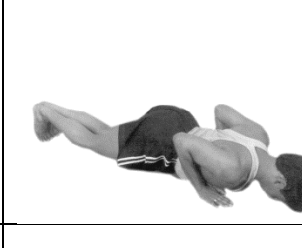
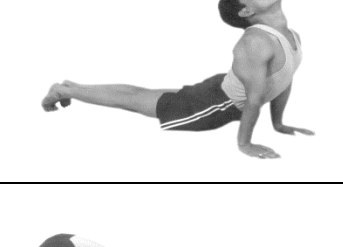

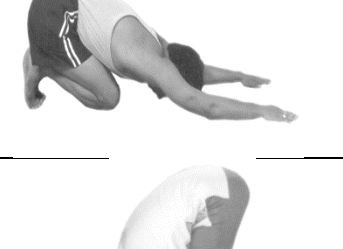



## 13.2 PREPARATORY PRACTICES

Name	Method	Duration
Urdhvahastasan		3 rounds
Kati-shakti Vikasaka Forward bending		2-3 rounds
Kati-shakti Vikasaka Twisting		2-3 rounds
Sarvangapushhti	<ul style="list-style-type: none"> <li>• With feet at double of shoulder width, close the fists with thumb inside and raise the arms over the head touching the ears and crossing each other at wrists.</li> <li>• Pull the upper part of the body upward while inhaling and bend forward while exhaling allowing entire back to be stretched and toned</li> <li>• Move to left side, rise up then bend back moving to right side while inhaling and coming to starting point between the feet giving waistline a circular movement while exhaling.</li> <li>• Now move to the right side to take the same circular movement</li> </ul>	3 rounds clockwise, 3 rounds anti-clockwise




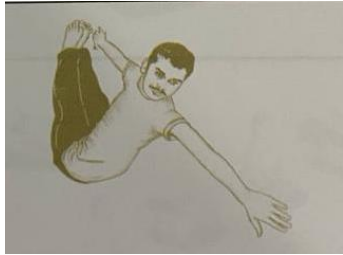









### 13.3 SUN SALUTATIONS – SURYA NAMASKARA

**6 rounds of fast Surya Namaskara (10 steps,), 1 round of slow Surya Namaskara (12 steps). For fast version, eliminate Sasankasana in steps 5 and 9.**

*(To be avoided by those with knee pain, cardiac problems, renal problem, low back pain, retinopathy and the elderly who are weak and not flexible; instead they can do 7 rounds of Chair SN)*

Hasta Uttanasana Step-1 (Inhale)		Padahastasana Step-2 (Exhale)	
Aswasanchlana Step-3 (Inhale)		Chaturanga dandasana Step-4 (Exhale)	
Sasankasana Step-5 (Inhale, Exhale)		Ashtanga Namaskar Step-6 (hold the breath out)	
Bhujangasana Step-7 (Inhale)		Parvatasana Step-8 (Exhale)	
Sasankasana Step-9 (Inhale, Exhale)		Aswasanchlana Step-10 (Inhale)	
Padahastasana Step-11 (Exhale)		Ardhachkrasana Step-12 (Inhale)	

### 13.4 POSTURES (ASANAS)

<b>Standing (1 Minute per asana)</b>			
			
Trikonasana	Parivritta Trikonasana	Prasarita Padhastasana	
<b>Supine (1 Minute per asana)</b>			
			
Jathara Parivartanasana	Pavanamuktasana	Viparita Karani	
<b>Prone (1 Minute per asana)</b>			
			
Bhujangasana	Dhanurasana	Pavanamuktasana	
<b>Sitting (1 Minute per asana)</b>			
			
Mandukasana	Vakrasana OR Ardha Matsyendrasana	Paschimatanasana	Ardha Ushtrasana
<b>Relaxation with abdominal breathing in supine position, for 10-15 rounds (2 min)</b>			

**APPENDIX 5: NMB-2017 SCREENING FORM**

**Madhumeha Nivantrita Bharata (MNB) – Screening form**

State	District	Village/Town	Area Urban <input type="radio"/> Rural <input type="radio"/>	YIDM-Code	Serial No
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<b>Name:</b>		<b>Age</b>
<b>Gender</b> <input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Transgender	<b>Marital Status</b> <input type="radio"/> Married <input type="radio"/> Unmarried <input type="radio"/> Separated	<b>Address</b>
<b>Education</b> <input type="radio"/> No formal schooling <input type="radio"/> Primary school <input type="radio"/> High school & higher <input type="radio"/> Secondary school <input type="radio"/> Technical education <input type="radio"/> Undergraduate degree <input type="radio"/> PG degree or above	<b>Occupation</b> <input type="radio"/> Professional /Executive /Manager/Big business <input type="radio"/> Clerical /Medium business <input type="radio"/> Sale <input type="radio"/> Agriculture/Self employed <input type="radio"/> Household & domestic work <input type="radio"/> Services <input type="radio"/> Skilled manual	<b>Residential Phone no</b>  <b>Mobile no</b>  <b>Email ID</b>

**1. Diabetes Information**

	<b>Yes</b>	<b>No</b>	<b>If "Yes" duration</b>		
Have Diabetes	<input type="radio"/>	<input type="radio"/>	___ Yrs ___ Months		
On treatment	<input type="radio"/>	<input type="radio"/>	___ Yrs ___ Months	___ Tabs/day	___ Insulin units/day
Alternative medicine	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/> Ayurveda	<input type="checkbox"/> Homeopathy	Other _____

**2. Indian Diabetes Risk Score (IDRS)**

Age	Physical activity at home/work	Family History	Waist Circumference cm	
			Male	Female
<input type="radio"/> <35 Years =0	<input type="radio"/> Vigorous exercise or strenuous at work=0	<input type="radio"/> Two Non-diabetic parents=0		
<input type="radio"/> 35-49 Years=20	<input type="radio"/> Moderate exercise at home/work=10	<input type="radio"/> One parent diabetic=10	<input type="radio"/> <90cm=0	<input type="radio"/> <80cm=0
<input type="radio"/> >= 50 Years=30	<input type="radio"/> Mild exercise at home/work=20	<input type="radio"/> Both parent diabetic=20	<input type="radio"/> 90-99cm=20	<input type="radio"/> 80-89cm=20
	<input type="radio"/> No exercise=30		<input type="radio"/> >=100cm=30	<input type="radio"/> >=90cm=30
<b>Scores:</b>				
<b>Total Score:</b>		High Risk >= 50, moderate risk 30-50, low risk < 30		

By signing this form, I am agreeing that I am 18 years of age or older and am agreeing to participate in this project voluntarily.

Date:

Participant's Signature

### 3. Body vitals

Height(cm)				Weight(kgs)				Hip Circumference(cm)			
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Blood Pressure:

First reading		Second reading	
Systolic	Diastolic	Systolic	Diastolic

### 4. Diet Information

a) Oil do you use for cooking?	b) How frequently you are consuming these items generally?			
<input type="radio"/> Mustard	#	Name of item	How much per serving?	How many times in a week?
<input type="radio"/> Coconut	1	Burger/ Chips		
<input type="radio"/> Groundnut	2	Fried items eg: Samosa/Kachori/Bonda etc		
<input type="radio"/> Sunflower	3	Pizza		
<input type="radio"/> Soyabean	4	Cake/Pastry		
<input type="radio"/> Palm	5	Fizzy cold drinks		
<input type="radio"/> Gingelly	6	Chat/Masala Puri		
<input type="radio"/> Others	7	Meat/Chicken		
	8	Fish/Egg		

### 5. Socioeconomic Status

a) Education of Head	b) Occupation of head	c) Family income / month
<input type="radio"/> Profession or Honours	<input type="radio"/> Profession	<input type="radio"/> ≥ Rs. 36,017
<input type="radio"/> Graduate or Post Graduate	<input type="radio"/> Semi Profession	<input type="radio"/> 18,000 – 36,016
<input type="radio"/> Intermediate /post high school diploma	<input type="radio"/> Clerical, Shop-Owner, farmer	<input type="radio"/> 14,395 – 17,999
<input type="radio"/> High School Certificate	<input type="radio"/> Skilled Worker	<input type="radio"/> 8,989 – 13,494
<input type="radio"/> Middle School Certificate	<input type="radio"/> Semi Skilled Worker	<input type="radio"/> 5,387 – 8,988
<input type="radio"/> Primary School Certificate	<input type="radio"/> Unskilled Worker	<input type="radio"/> 1,803 – 5,386
<input type="radio"/> Illiterate	<input type="radio"/> Unemployed	<input type="radio"/> <1,802

### 6. Yoga

a) Do you practice Yoga?  Yes  No If "Yes" duration \_\_\_ Yrs \_\_\_ Months

#	Name of practice	Hours per week?		Rate your level of yoga practice?
		Hrs	Min	
1	Asanas			<input type="radio"/> Beginner
2	Pranayama			<input type="radio"/> Intermediate
3	Meditation			<input type="radio"/> Advances
4	Bhajans			Style of yoga do you practice?
5	Other			

b) Do you think practicing yoga have any side-effects?  Yes  No

If "Yes" What kinds of side-effects: \_\_\_\_\_

c) Do you think yoga can help in prevention and management of diabetes?  Yes  No

d) Do you think yoga can help in changing your life style?  Yes  No

## **APPENDIX 6: NBM-2017 REGISTRATION FORM**

**Nivantrita Madhumeha Bharata (NMB) –Registration form**

**INTERVIEW SCHEDULE**

State	District	Village/ Town	Area				Camp	Code	Serial No
			Urban	<input type="radio"/>	Rural	<input type="radio"/>			

<b>SRL Barcode</b>	
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DP	Demographic Profile	Code Label	Value
DP01	Name of the participant		
DP02	Email-ID		
DP03	Phone No		
DP04	Residential Phone no		
DP05	Age in completed years		
DP06	Sex	Male 1 Female 2	1
DP07	Place of residence	Urban 1 Rural 2	
DP08	Marital status	1. Married 2. Unmarried 3. Divorcee /separated 4. widow/widower 5. Others (specify if any)	

G	General Information	Code Label	Value
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G01	Highest level of education attained	<ol style="list-style-type: none"> <li>1. No formal schooling</li> <li>2. Up to primary school</li> <li>3. Up to high school</li> <li>4. Up to intermediate</li> <li>5. Up to university</li> <li>6. University completed or higher</li> <li>7. Others (specify if any)</li> </ol>	
G02	Which of the following best describes your main work status in the last 12 months?	<ol style="list-style-type: none"> <li>1. Professional/Executive/ Big business</li> <li>2. Clerical/ medium business</li> <li>3. Self-employed/ skilled</li> <li>4. Unskilled/ landless laborer</li> <li>5. Homemaker</li> <li>6. Retired</li> <li>7. Unemployed (able to work)</li> <li>8. Unemployed (unable to work)</li> <li>9. Others(specify if anv)</li> </ol>	
G03	Do you do any kind of work currently?	No                    0 1 Yes	
G04	What was your personal income in the last month?	<ol style="list-style-type: none"> <li>1. <math>\geq</math> Rs. 36,017</li> <li>2. 18,000 – 36,016</li> <li>3. 14,395 –17,999</li> <li>4. 8,989 – 13,494</li> <li>5. 5,387 – 8,988</li> <li>6. 1,803 – 5,386</li> </ol>	
G05	Is (Are) there any other earning member(s) in your family?	<ol style="list-style-type: none"> <li>7. &lt;1,802</li> </ol> <hr/> No                    0 Yes                    1	
G06	What was your household income in the last month?	<ol style="list-style-type: none"> <li>1. <math>\geq</math> Rs. 36,017</li> <li>2. 18,000 – 36,016</li> <li>3. 14,395 –17,999</li> <li>4. 8,989 – 13,494</li> <li>5. 5,387 – 8,988</li> <li>6. 1,803 – 5,386</li> <li>7. &lt;1,802</li> </ol>	
G07	Not counting yourself, How many other adults (older than 18) live in your household?(Number of members currently sharing the same kitchen)	none                    0 1                    1 2                    2 3                    3 4                    4	

		5	5	6	
		more than 5			

	Medical History Heart	Code Label	Value
<b>HEA</b>	<b>Have you ever had any of the following operations or procedures related to your heart? (circle one answer on each line)</b>		
HEA1	Coronary artery bypass surgery (open heart surgery)	No 0 Yes 1	
HEA2	Coronary angioplasty ("balloon" heart procedure)	No 0 Yes 1	
HEA3	Heart catheterization (angiogram)	No 0 Yes 1	

	Medical History Body, Feet & Leg	Code Label	Value
<b>BFL</b>	<b>Have you ever been told by a health care provider that you have any of the following problems with your shoulder, feet or legs?</b>		
BFL1	Peripheral vascular disease (poor circulation in the legs) Any infected wound or ulcer which is not healing	No 0 Yes 1	
BFL2	Do you have stiffness and pain in your shoulder since last three months or more	No 0 Yes 1	
BFL3	Intermittent claudication (cramping in the calves after exercise)	No 0 Yes 1	
BFL4	Peripheral neuropathy (nerve problems causing numbness, tingling, or burning)	No 0 Yes 1	

	Medical History Stroke	Code Label	Value
<b>MHS</b>	<b>Have you ever been told by a health care provider that you have had any of the following problems?</b>		
MHS1	Stroke	No 0 Yes 1	
MHS2	Transient ischemic attacks (TIA or "mini-strokes")	No 0 Yes 1	

	Medical History Eyes	Code Label	Value
<b>EYE</b>	<b>Have you ever been told by a health care provider that you have had any of eyes related problems?</b>		

EYE1	Have you ever been diagnosed with any of the following ocular conditions: Eg: Glaucoma, Cataracts ,Macular Degeneration, Eye injury, Retinal disease ,Blindness, Dry eyes	No 0 Yes 1	
EYE2	Do you have damage to your eyes from diabetes?	No 0 Yes 1	
EYE3	Have you had laser therapy done on your eyes?	No 0 Yes 1	

<b>HBP</b>	<b>High Blood Pressure</b>	<b>Code Label</b>	<b>Value</b>
HBP1	Have you ever been told by a health care provider that you have <b>High blood pressure</b> ?	No 0 (Skip to question xx) Yes 1	
HBP2	Do you now take medication for your <b>High blood pressure</b> ?	No 0 (Skip to question xx) Yes 1	
HBP3	What is the name of the <b>High blood pressure</b> medication prescribed by your family physician?		
HBP4	How many tablets a day do you have to consume for <b>High blood pressure</b> ?	1. 1 tablet at each intake 2. 2 tablets at each intake 3. 3 tablet at each intake 4. More than 4 tablets at each intake 99Don 't Know/Not Sure	
HBP5	How many times a day do you have to take your medication for <b>High blood pressure</b> ?	1. Once a day 2. Twice a day 3. Three times a day 99Don 't Know/Not Sure	




<b>HC</b>	<b>High cholesterol</b>	<b>Code Label</b>	<b>Value</b>
HC1	Have you ever been told by a health care provider that you have <b>High cholesterol</b> ?	No 0 (Skip to question xx) Yes 1	
HC2	Do you now take medication for your <b>High cholesterol</b> ?	No 0 (Skip to question xx) Yes 1	




HC3	What is the name of the <b>High cholesterol</b> medication prescribed by your family physician?		
HC4	How many tablets a day do you have to consume for <b>High cholesterol</b> ?	1. 1 tablet at each intake 2. 2 tablets at each intake 3. 3 tablet at each intake 4. More than 4 tablets at each intake 99Don 't Know/Not Sure	
HC5	How many times a day do you have to take your medication for <b>High cholesterol</b> ?	1. Once a day 2. Twice a day 3. Three times a day 99Don 't Know/Not Sure	

KD	Kidney Disease	Code Label	Value
KD1	Have you ever been told by a health care provider that you have <b>kidney disease</b> ?	No 0 (Skip to question xx) Yes 1	
KD2	Do you now take medication for your <b>kidney disease</b> ?	No 0 (Skip to question xx) Yes 1	
KD3	What is the name of the <b>kidney disease</b> medication prescribed by your family physician?		
KD4	How many tablets a day do you have to consume for <b>kidney disease</b> ?	1. 1 tablet at each intake 2. 2 tablets at each intake 3. 3 tablet at each intake 4. More than 4 tablets at each intake 99Don 't Know/Not Sure	
KD5	How many times a day do you have to take your medication for <b>kidney disease</b> ?	1. Once a day 2. Twice a day 3. Three times a day 99Don 't Know/Not Sure	

CO	Any other disease or complications	Code Label	Value
CO1	Have you ever been told by a health care provider that you have <b>any other disease or complications at present</b> ?	No 0 (Skip to question xx) Yes 1	

C02	<b>Details of disease or complications</b>		
C03	Do you now take medication for your <b>other disease or complications</b> ?	No 0 (Skip to question xx) Yes 1	
C04	What is the name of the <b>other disease or complications</b> medication prescribed by your family physician?		
C05	How many tablets a day do you have to consume for <b>any other disease or complications</b> ?	1. 1 tablet at each intake 2. 2 tablets at each intake 3. 3 tablet at each intake 4. More than 4 tablets at each intake 99Don 't Know/Not Sure	
C06	How many times a day do you have to take your medication for <b>any other disease or complications</b> ?	1. Once a day 2. Twice a day 3. Three times a day 99Don 't Know/Not Sure	

	Stress	Code Label	Value
ST	<p>Indicate daily stressors and rate the level of stress (none mild moderate severe) assessed you feel on following stressors during THE LAST MONTH. In each case please indicate your response by placing an "X" on the small ruler and rate the level of stress (0 (none) to 10 (severe)):</p>		
ST1	Work	<p style="text-align: center;">10 9 8 7 6 5 4 3 2 1 0</p> <p>‘Severe’  ‘none’</p>	
ST2	Family	<p style="text-align: center;">10 9 8 7 6 5 4 3 2 1 0</p> <p>‘Severe’  ‘none’</p>	
ST3	Health	<p style="text-align: center;">10 9 8 7 6 5 4 3 2 1 0</p> <p>‘Severe’  ‘none’</p>	

ST4	Financial	<p style="text-align: center;">10 9 8 7 6 5 4 3 2 1 0</p> <p>‘Severe’ </p> <p style="text-align: right;">‘none’</p>	
ST5	Social	<p style="text-align: center;">10 9 8 7 6 5 4 3 2 1 0</p> <p>‘Severe’ </p> <p style="text-align: right;">‘none’</p>	
ST6	Other	<p style="text-align: center;">10 9 8 7 6 5 4 3 2 1 0</p> <p>‘Severe’ </p> <p style="text-align: right;">‘none’</p>	

DIA	Diabetes Specific	Code Label	Value
DIA1	Have you ever been told by a health care provider that you have <b>Diabetes</b> ?	No 0 (Skip to question xx) Yes 1	
DIA2	Since how many years you suffer from diabetes?(in years and months)		
DIA3	How old were you at the time of diagnosis?(in years)		
DIA4	No of episodes of high blood sugar during last one year(rapid breathing/fruity breath odour/confusion/coma etc)?		
DIA5	No of episodes of high blood sugar during last three months?		
DIA5	No of episodes of low(hypoglycemia) blood sugar during last one year (with blurred vision/sweating/reeling of head etc)		
DIA6	No of episodes of low blood sugar during last three months?		
DIA7	Do you now take medication for your <b>Diabetes</b> ?	No 0 (Skip to question xx) Yes 1	
DIA8	What is the name of the <b>Diabetes</b> medication prescribed by your family physician?		

DIA9	How many tablets a day do you have to consume for diabetes?	1. 1 tablet 2. 2 tablets 3. 3 tablet 4. More than 4 tablets 99 Don 't Know/Not Sure	
DIA10	How many times a day do you have to take your diabetes medication?	1. Once a day 2. Twice a day 3. Three times a day 99Don 't Know/Not Sure	
DIA11	Do you now take insulin for your <b>Diabetes</b> ?	No            0 (Skip to question xx) Yes            1	
DIA12	How many times a day do you have to take your insulin?	1. Once a day 2. Twice a day 3. Three times a day 99Don 't Know/Not Sure	
DIA13	Unit per/day		

<b>DFH</b>	<b>Family with diabetes?</b>	<b>Code Label</b>	<b>Value</b>
DFH1	Father	No 0 Yes 1	
DFH2	Mother	No 0 Yes 1	
DIF3	Brother	No 0 Yes 1	
DIF4	Sister	No 0 Yes 1	
DIF5	Others(specify)	No 0 Yes 1	
<b>DIT</b>	<b>What type of treatment are you receiving now?</b>		

DIT1	Diet	No 0 Yes 1	
DIT2	Exercise	No 0 Yes 1	
DIT3	OADs	No 0 Yes 1	
DIT4	Insulin	No 0 Yes 1	
DIT5	Other	No 0 Yes 1	
DIT6	How satisfied are you with your overall blood glucose control?	Excellent control Pretty good control Good control Few problems Poor control Very poor control	1 2 3 4 5 6

<b>Tob</b>	<b>Tobacco Use</b>	<b>Code Label</b>	<b>Value</b>
<b>Tob01</b>	Have you smoked at least 100 cigarettes, cigars, pipefuls, bidi or any other tobacco containing products in your lifetime?	No 0 Yes 1 Uncertain 2	
<b>Tob02</b>	Have you ever smoked daily (= almost every day for at least one year)?	No 0 Yes 1 Uncertain 2	
<b>Tob03</b>	Do you currently smoke cigarette/bidi or any other tobacco containing products?	No 0 Yes 1	
<b>Tob04</b>	Do you use those products daily?		

<b>Tob05</b>	On average how many cigarettes, cigars, pipefuls, and bidi do you smoke each day?	No	0	
		Yes	1	
		1. ≤5 daily 2. 5 to 10 daily 3. 10 to 15 daily 4. 15 to 20 daily 5. >20 daily		
<b>Tob06</b>	You are smoking this for how many years	1. < 6 months 2. 6 mon to 1 yrs 3. 1 to 5 yrs 4. 5 to 10 yrs 5. More than 10 yrs		

<b>STO</b>	<b>Smokeless Tobacco</b>	<b>Code Label</b>	<b>Value</b>
<b>STO1</b>	Have you ever used any smokeless tobacco products? (Pan with tobacco, Gutkha, Khaini, Snuff )	No 0 Yes 1	
<b>STO2</b>	Do you currently use any smokeless tobacco product?	No 0 Yes 1	
<b>STO3</b>	Do you currently use these products daily?	No 0 Yes 1	
<b>STO4</b>	Do you currently use smokeless tobacco on daily basis, less than daily, or not at all?	1. Daily 2. Less than Daily 3. Not at all 4. Don't Know	
<b>STO5</b>	You are consuming this for how many years	1. < 6 months 2. 6 mon to 1 yrs 3. 1 to 5 yrs 4. 5 to 10 yrs 5. More than 10 yrs	

AL	Alcohol Usage		
AL01	Have you ever consumed a drink that contains alcohol such as beer, whisky, rum, gin, brandy or other local products?	No Yes	0 1
AL02	You are drinking for how many years		1. < 6 months 2. 6 mon to 1 yrs 3. 1 to 5 yrs 4. 5 to 10 yrs 5. More than 10 yrs
AL03	Have you consumed any products in the three months?	No Yes	0 1
AL04	In the past 3 months how frequently have you had at least one drink?		every day 1 at least once a week 2 at least once a month 3 once in 3 months 4
AL05	Have you consumed any products in the last month?	No Yes	0 1
AL06	In the last one months, how frequently you have been drinking?		Every day 1 3-5 times a week 2 Once a week 3 Only on weekends 4 On special occasions 5
AL07	On average how many drinks do you have during one day in the last one months?		less than 1 drink 1 or 2 drinks 2 3 or 4 drinks 3 5 or 6 drinks 4
AL08	Type of drink:		over 6 drinks1. English / Hard Drink5 2. Desi/ Local 3. Beer 4. Wine

AL09	How much Milliliter per day	<ol style="list-style-type: none"> <li>1. 60 ml</li> <li>2. 90 ml</li> <li>3. 180</li> <li>4. 250 ml</li> <li>5. 500 or above ml</li> </ol>	
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<b>D</b>	<b>Diet: On weekly basis, how often do you:</b>		
D01	Skip breakfast?	Usually/Often Sometimes Rarely/ Never	1 2 3
D02	Eat less than 2 servings of whole grain products or high fiber starches a day?	Usually/Often Sometimes Rarely/ Never	1 2 3
D03	Eat less than 2 servings of fruit a day? <b>Serving</b> = ½ cup or 1 med. fruit or ¾ cup 100% fruit juice.	Usually/Often Sometimes Rarely/ Never	1 2 3
D04	Eat less than 2 servings of vegetables a day? <b>Serving</b> = ½ cup vegetables, or 1 cup leafy raw vegetables.	Usually/Often Sometimes Rarely/ Never	1 2 3
D05	Eat or drink less than 2 servings of milk, yogurt, or cheese a day? : <b>Serving</b> = 1 cup milk or yogurt; 60 grams cheese.	Usually/Often Sometimes Rarely/ Never	1 2 3
D06	Eat more than 250 grams (see sizes below) of meat, chicken, turkey or fish per day?:Note: 100 grams of meat or chicken is the size of a deck of cards or ONE of the following: 1 regular hamburger, 1 chicken breast or leg (thigh and drumstick), or 1 pork chop.	Usually/Often Sometimes Rarely/ Never	1 2 3
D07	Eat fried foods such as fried chicken, fried fish, French fries, chips, Samosa, Kachori, Bonda or Bhajji?	Usually/Often Sometimes Rarely/ Never	1 2 3
D08	Eat regular potato chips, nacho chips, corn chips, baked food typically made from flour, regular popcorn, nuts, air-popped popcorn?	Usually/Often Sometimes Rarely/ Never	1 2 3

D09	Eat sweets like cake, cookies, pastries, donuts, muffins, chocolate and candies more than 2 times per day.	Usually/Often Sometimes Rarely/ Never	1 2 3
D10	Drink ½ litre or more of non-diet soda, or fruit drink/punch a day?	Usually/Often Sometimes Rarely/ Never	1 2 3
D11	Your staple food	1. Rice 2. Ragi 3. Wheat 4. Bajra 5. Jowar 6. Maize 7. Other	

P	<b>Physical activity:</b> <b>I am going to ask you some questions about your physical activity during last one month.</b> <b>In the last month</b>		
PMI1	How many days do you go for a mild activity that causes no increases in breathing or heart rate like walk at a slow or normal pace?	None Once a month 2 to 3 times a month Once a week 2 to 3 times a week 4 to 5 times a week Every day	0 1 2 3 4 5 6
PMI2	On average, how many minutes of mild activity each day?	None 10 - 30mins 30mins - 1hr 1hr - 1.5hrs >1.5hrs	0 at least 10 2 3 4 5
PMO1	How many days do you go for moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking [or carrying light loads, cycling, swimming, volleyball]?	None Once a month 2 to 3 times a month Once a week 2 to 3 times a week 4 to 5 times a week Every day	0 1 2 3 4 5 6

PMO2	On average, how many minutes of moderate-intensity activity each day?	None mins 1 10 - 30mins 2 30mins - 1hr 3 1hr - 1.5hrs 4 >1.5hrs 5	0 at least 10	
PVI1	How many days do you go for a vigorous-intensity activity that causes large increases in breathing or heart rate like [carrying or lifting heavy loads, digging or construction work , running or football or in a gym]?	None Once a month 2 to 3 times a month Once a week 2 to 3 times a week 4 to 5 times a week Every day	0 1 2 3 4 5 6	

PVI2	On average, how many minutes of vigorous-intensity activity each day?	None mins 1 10 - 30mins 2 30mins - 1hr 3 1hr - 1.5hrs 4 >1.5hrs 5	0 at least 10	
PCL1	How many days do you climb flight of stairs (10 steps)?	None Once a month 2 to 3 times a month Once a week 2 to 3 times a week 4 to 5 times a week Every day	0 1 2 3 4 5 6	
PCL2	On average, number of times you climbed up a flight of stairs (10 steps)?	None 1 to 5 times 6 to 10 times 11 to 15 times 16 to 20 times more than 20 times	0 1 2 3 4 5	
PSE1	On average during a typical work-day and excluding work time, how many hours do you watch TV or sit at a computer or play video games?	None < 1 hr 1 hr - 2 hrs 2 hr - 3hrs	0 1 2 3	

		3 hr - 4 hrs	4	
		>4 hrs	5	
PSE2	On average during a non-working day, how many hours do you watch TV or sit at a computer or play video games?	None	0	
		< 1 hr	1	
		1 hr - 2 hrs	2	
		2 hr - 3hrs	3	
		3 hr - 4 hrs	4	
		>4 hrs	5	
PTR1	Which form of transport do you use most often apart from your journey to and from work?	Walk	1	
		By Cycle	2	
		By Two Wheelers	3	
		By Public transport	4	
		By Car	5	

PTR2	How did you normally travel to Job?	Walk	1	
		By Cycle	2	
		By Two Wheelers	3	
		By Public transport	4	
		By Car	5	
PTR3	On average, distance travel to Job?	less than one km	1	01
		- 05 kms	2	
		06 - 10 kms	3	
		11 - 15 kms	4	more
		than 15 kms	5	
PWA1	On average, how many kms do you walk per day?	less than one km	1	01
		- 05 kms	2	
		06 - 10 kms	3	
		11 - 15 kms	4	more
		than 15 kms	5	

POC1	What type of physical activity do you perform in your occupation (or in your daily life)?	<p>1 Basically, I'm seated and I walk very little (administrative, ...)</p> <p>2 I am seated but I very often perform moderate intensity efforts (cashier...)</p> <p>3 Basically, I am standing and I walk very little</p> <p>4 I walk a lot but I do not perform vigorous effort (salesperson, shopkeeper...)</p> <p>5 I walk a lot and I perform vigorous effort (mail carrier, delivery person...)</p> <p>6 Basically, I perform vigorous effort (construction worker...)</p>	
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SL	Sleep	Code Label	Value
	<p><b>The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month</b></p>	<p><b>ep habits during the past month</b></p> <p><b>curate reply for the majority of</b></p>	
SL01	What time do you normally get up on weekday?	<p>Before 5:00 AM 1</p> <p>5:00 – 6:30 AM 2</p> <p>6:30 – 7:30 AM 3</p> <p>7:30 – 8:30 AM 4</p> <p>8:30 – 9:30 AM 5</p> <p>After 9:30 AM 6</p>	
SL02	What time do you normally get up on weekend?	<p>Before 5:00 AM 1</p> <p>5:00 – 6:30 AM 2</p> <p>6:30 – 7:30 AM 3</p> <p>7:30 – 8:30 AM 4</p> <p>8:30 – 9:30 AM 5</p> <p>After 9:30 AM 6</p>	
SL03	What time do you normally go to bed on weekday?	<p>Before 8:00 PM 1</p> <p>8:00 – 9:00 PM 2</p> <p>9:00 – 10:00 PM 3</p> <p>10:00– 11:00 PM 4</p>	



		Yes	1	
SUP7	Extremity Surgery	No	0	
		Yes	1	
SUP8	Others	No	0	
		Yes	1	
<b>SUR1</b>	<b>Recent Surgery (last 3 months)</b>	<b>No</b>	<b>0</b>	
		<b>Yes</b>	<b>1</b>	
SUR2	HEENT Surgery	No	0	
		Yes	1	
SUR3	Breast Surgery	No	0	
		Yes	1	
SUR4	Trunk Surgery	No	0	
		Yes	1	
SUR5	Abdominal Surgery	No	0	
		Yes	1	
SUR6	Pelvic Surgery	No	0	
		Yes	1	
SUR7	Extremity Surgery	No	0	
		Yes	1	
SUR8	Others	No	0	
		Yes	1	

PS00	<b>Perceived Stress Scale</b> <i>The questions in this scale ask you about your feelings and thoughts <b>during the last month</b>. In each case, indicate with a check how often you felt or thought a certain way.</i>		
PS01	In the last month, how often have you been upset because of something that happened unexpectedly?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS02	In the last month, how often have you felt that you were unable to control the important things in your life?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS03	In the last month, how often have you felt nervous and "stressed"?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS04	In the last month, how often have you felt confident about your ability to handle your personal problems?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS05	In the last month, how often have you felt that things were going your way?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS06	In the last month, how often have you found that you could not cope with all the things that you had to do?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS07	In the last month, how often have you been able to control irritations in your life?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS08	In the last month, how often have you felt that you were on top of things?	Never 0 Almost never 1	

		Sometimes 2 Fairly often 3 Very often 4	
PS09	In the last month, how often have you been angered because of things that were outside of your control?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	
PS10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	Never 0 Almost never 1 Sometimes 2 Fairly often 3 Very often 4	

<b>PH00</b>	<b>PATIENT HEALTH QUESTIONNAIRE</b>		
	<i>Over the last 2 weeks, how often have you been bothered by any of the following problems?</i>		
PH01	Little interest or pleasure in doing things	Not at all 0 Several days 1 More than half 2 the days Nearly every day 3	
PH02	Feeling down, depressed, or hopeless	Not at all 0 Several days 1 More than half 2 the days Nearly every day 3	
PH03	Trouble falling or staying asleep, or sleeping too much	Not at all 0 Several days 1 More than half 2 the days Nearly every day 3	
PH04	Feeling tired or having little energy	Not at all 0 Several days 1 More than half 2 the days Nearly every day 3	

PH05	Poor appetite or overeating	Not at all Several days than half Nearly every day	0 1 2 3	
PH06	Feeling bad about yourself — or that you are a failure or have let yourself or your family down	Not at all Several days than half Nearly every day	0 1 2 3	
PH07	Trouble concentrating on things, such as reading the newspaper or watching television	Not at all Several days than half Nearly every day	0 1 2 3	
PH08	Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	Not at all Several days than half Nearly every day	0 1 2 3	
PH09	Thoughts that you would be better off dead or of hurting yourself in some way	Not at all Several days than half Nearly every day	0 1 2 3	

<b>MDE</b>	<b>Medical Expense</b>	
MDE1	Average Monthly expenditure in diabetes treatment(Approx. )	
MDE2	Average Monthly expenditure in health events(Approx.)	
MDE3	Average Monthly household expenditure(Approx.)	

<b>HSV</b>	<b>Hospital Visit</b>	
HSV1	No of Emergency department visits during last one year?	
HSV2	No of Emergency department visits during the three months?	
HSV3	How many days were you hospitalized for Diabetes related causes in the last year?	
HSV4	How many days were you hospitalized for Diabetes related causes in the last three months?	
HSV5	How many days were you hospitalized for due to other diseases in the last year?	
HSV6	How many days were you hospitalized for due to other diseases in the last three months?	

**Body vitals**

<b>Height (cm)</b>				
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<b>Weight (kgs)</b>				
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<b>Hip Circumference(cm)</b>				
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Blood Pressure:

First reading					
<i>Systolic</i>			<i>Diastolic</i>		

Second reading					
<i>Systolic</i>			<i>Diastolic</i>		

Bhramari Time					
<i>Systolic</i>			<i>Diastolic</i>		

Respiratory Rate					
<i>Systolic</i>			<i>Diastolic</i>		

Bhramari Time	
<i>1<sup>st</sup></i>	<i>2<sup>nd</sup></i>

Respiratory Rate

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***Waist Circumference***

***cm*** \_\_\_\_\_