

## Supplementary Material

### Urban-Rural Differences in the Prevalence of Diabetes among Adults in Haryana, India: The ICMR-INDIAB Study (ICMR-INDIAB-18)

**Sanjay Kalra, Ranjit Mohan Anjana, Madhur Verma, Rajendra Pradeepa, Nikita Sharma, Mohan Deepa, Omna Singh, Ulagamadesan Venkatesan, Nirmal Elangovan, Sameer Aggarwal, Rakesh Kakkar, Viswanathan Mohan**

#### Detailed Author Affiliations:

**1. Sanjay Kalra**

Consultant, Department of Endocrinology, Bharti Hospital, Karnal, India  
University Centre for Research and Development, Chandigarh University, Mohali, India.  
Email: [brideknl@gmail.com](mailto:brideknl@gmail.com).  
Orcid id: [orcid.org/0000-0003-1308-121X](https://orcid.org/0000-0003-1308-121X)

**2. Ranjit Mohan Anjana**

President, Madras Diabetes Research Foundation  
& Managing Director & Consultant Diabetologist  
Dr.Mohan's Diabetes Specialities Centre, Chennai, India  
Email: [dranjana@drmohans.com](mailto:dranjana@drmohans.com)  
Orcid id: [orcid.org/0000-0002-4843-1374](https://orcid.org/0000-0002-4843-1374)

**3. Madhur Verma**

Assistant Professor, Department of Community and Family Medicine, All India Institute of Medical Sciences Bathinda, India  
Email: [drmadhurverma@gmail.com](mailto:drmadhurverma@gmail.com).  
Orcid id: [orcid.org/0000-0002-1787-8392](https://orcid.org/0000-0002-1787-8392).

**4. Rajendra Pradeepa**

Executive Scientific Officer & Head, Department of Research Operations & Diabetes Complications, Madras Diabetes Research Foundation, Chennai, India  
Email: [guhapradeepa@gmail.com](mailto:guhapradeepa@gmail.com)  
Orcid id: [orcid.org/0000-0002-4909-3733](https://orcid.org/0000-0002-4909-3733)

**5. Nikita Sharma**

Assistant Professor, Department of Community and Family Medicine, All India Institute of Medical Sciences Bilaspur, India  
Email: [nikkizoan@gmail.com](mailto:nikkizoan@gmail.com).

**6. Mohan Deepa**

Senior Scientist & Head, Department of Epidemiology, Madras Diabetes Research Foundation, Chennai, India  
Email: [deepa.mohan1@gmail.com](mailto:deepa.mohan1@gmail.com)  
Orcid id: [orcid.org/0000-0001-6348-1946](https://orcid.org/0000-0001-6348-1946)

**7. Omna Singh**

Project Assistant, Department of Community and Family Medicine, All India Institute of Medical Sciences Bathinda, India

Email: [singhomna2000@gmail.com](mailto:singhomna2000@gmail.com).

**8. Ulagamadesan Venkatesan**

Senior Bio-statistician, Department of Bio-statistics, Madras Diabetes Research Foundation, Chennai, India

Email: [drvenkybsms@gmail.com](mailto:drvenkybsms@gmail.com)

Orcid id: [orcid.org/ 0000-0002-1638-6046](https://orcid.org/0000-0002-1638-6046)

**9. Nirmal Elangovan**

Senior Project Manager, Department of Research Operations & Diabetes Complications, Madras Diabetes Research Foundation, Chennai, India

Email: [nirmal.19@gmail.com](mailto:nirmal.19@gmail.com).

**10. Sameer Aggarwal**

Consultant, Department of Endocrinology, Apex Hospitals, Rohtak, India

Email: [drsameerendocrinology@gmail.com](mailto:drsameerendocrinology@gmail.com)

**11. Rakesh Kakkar**

Professor and Head, Department of Community and Family Medicine, All India Institute of Medical Sciences Bathinda, India-151001

Email: [drrakesh75@rediffmail.com](mailto:drrakesh75@rediffmail.com).

**12. Viswanathan Mohan**

Chairman, Madras Diabetes Research Foundation & Dr.Mohan's Diabetes Specialities Centre, Chennai, India

Email: [drmohans@diabetes.ind.in](mailto:drmohans@diabetes.ind.in)

Orcid id: [orcid.org/0000-0001-5038-6210](https://orcid.org/0000-0001-5038-6210)

**Details of the Corresponding author:**

**Dr. Sanjay Kalra (DM).**

Department of Endocrinology,  
Bharti Hospital, Karnal, India.

Email: [brideknl@gmail.com](mailto:brideknl@gmail.com).

Mobile: +919896048555

**Supplementary Table 1: Weighted prevalence of diabetes in the state of Haryana stratified by residence and proximity to NCR standardised using the NFHS-5 weights.**

|                    | Non-NCR Region    |                             |                   |                             | NCR Region        |                             |                   |                             |
|--------------------|-------------------|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|-------------------|-----------------------------|
|                    | Rural             |                             | Urban             |                             | Rural             |                             | Urban             |                             |
|                    | Unweighted counts | Weighted prevalence (95 CI) | Unweighted counts | Weighted prevalence (95 CI) | Unweighted counts | Weighted prevalence (95 CI) | Unweighted counts | Weighted prevalence (95 CI) |
| <b>Sample size</b> | 1022              |                             | 355               |                             | 1625              |                             | 720               |                             |
| <b>Prediabetes</b> | 206               | 19.5<br>(10.1-29.0)         | 93                | 19.4<br>(6.7-32.3)          | 335               | 17.1<br>(10.5-24.0)         | 155               | 18.1<br>(8.2-28.0)          |
| <b>Diabetes</b>    | 120               | 8.9<br>(3.0-14.9)           | 56                | 14.0<br>(3.8-25.2)          | 174               | 9.7<br>(4.8-14.6)           | 135               | 19.5<br>(10.6-28.6)         |

CI, confidence interval; NCR, National Capital Region.

**Supplementary Table 2: Urban-rural differences in the weighted prevalence of diabetes in Haryana as per the proximity to NCR.**

|                              | Rural       |            |                |         |            |         | Urban       |            |            |         |            |         |
|------------------------------|-------------|------------|----------------|---------|------------|---------|-------------|------------|------------|---------|------------|---------|
|                              | Total Rural |            | Non-NCR region |         | NCR region |         | Total Urban |            | Non-NCR    |         | NCR        |         |
|                              | Counts      | Prevalence | Prevalence     | p-value | Prevalence | P-value | Counts      | Prevalence | Prevalence | P-value | Prevalence | p-value |
| <b>Total sample</b>          | n=2647      |            | n=1022         |         | n=1625     |         | n=1075      |            | n=355      |         | n=720      |         |
| <b>Overall prevalence</b>    |             | 294(11.1)  | 120 (11.7)     |         | 174(10.7)  |         |             | 191(17.8)  | 56(15.8)   |         | 135(18.8)  |         |
| <b>Age category</b>          |             |            |                | 0.010   |            | 0.000   |             |            |            | 0.005   |            | 0       |
| 20-44                        | 1564        | 128(8.2)   | 57 (9.3)       |         | 71(7.5)    |         | 615         | 68(11.1)   | 18(9.7)    |         | 50(11.6)   |         |
| 45-59                        | 645         | 96(14.9)   | 42(15.4)       |         | 54(14.5)   |         | 290         | 78(26.9)   | 22(22.9)   |         | 56(28.9)   |         |
| ≥60 years                    | 438         | 70(16)     | 21(15.8)       |         | 49(16.1)   |         | 170         | 45(26.5)   | 16(21.6)   |         | 29(30.2)   |         |
| <b>Gender</b>                |             |            |                | 0.478   |            | 0.125   |             |            |            | 0.386   |            | 0.119   |
| Male                         | 1279        | 129(10.1)  | 56 (11.0)      |         | 73(9.5)    |         | 497         | 77(15.5)   | 24(14)     |         | 53(16.3)   |         |
| Female                       | 1368        | 165(12.1)  | 64(12.5)       |         | 101(11.8)  |         | 578         | 114(19.7)  | 32(17.4)   |         | 82(20.8)   |         |
| <b>Religion</b>              |             |            |                | 0.020   |            | 0.584   |             |            |            | 0.364   |            | 0.808   |
| Hindu                        | 2185        | 235(10.8)  | 85 (10.5)      |         | 150(10.9)  |         | 988         | 178(18)    | 53(16.3)   |         | 125(18.9)  |         |
| Others                       | 462         | 59(12.8)   | 35(16.3)       |         | 24(9.7)    |         | 87          | 13(14.9)   | 3(10)      |         | 10(17.5)   |         |
| <b>Marital status</b>        |             |            |                | 0.524   |            | 0.991   |             |            |            | 0.767   |            | 0.792   |
| Currently in union           | 2174        | 239(11)    | 96(11.4)       |         | 143(10.7)  |         | 888         | 160(18)    | 45(16.1)   |         | 115(18.9)  |         |
| Not in union                 | 473         | 55(11.6)   | 24(13.1)       |         | 31(10.7)   |         | 187         | 31(16.6)   | 11(14.7)   |         | 20(17.9)   |         |
| <b>Educational status</b>    |             |            |                | 0.034   |            | 0.334   |             |            |            | 0.606   |            | 0.131   |
| Nil                          | 833         | 113(13.6)  | 46(15.1)       |         | 67(12.7)   |         | 207         | 49(23.7)   | 10(18.9)   |         | 39(25.3)   |         |
| Up to primary                | 538         | 63(11.7)   | 30(13.8)       |         | 33(10.3)   |         | 175         | 30(17.1)   | 9(17)      |         | 21(17.2)   |         |
| Up to higher secondary       | 1047        | 99(9.5)    | 39(9.2)        |         | 60(9.6)    |         | 443         | 74(16.7)   | 25(17)     |         | 49(16.6)   |         |
| Higher than secondary        | 229         | 19(8.3)    | 5(6.7)         |         | 14(9.1)    |         | 250         | 38(15.2)   | 12(11.8)   |         | 26(17.6)   |         |
| <b>Occupation</b>            |             |            |                | 0.654   |            | 0.003   |             |            |            | 0.144   |            | 0.167   |
| Manual labour                | 937         | 84(9)      | 44(11.2)       |         | 40(7.4)    |         | 246         | 32(13)     | 8(11)      |         | 24(13.9)   |         |
| Skilled workers              | 168         | 23(13.7)   | 6(9.1)         |         | 17(16.7)   |         | 213         | 36(16.9)   | 9(11.7)    |         | 27(19.9)   |         |
| Unemployed                   | 1542        | 187(12.1)  | 70(12.5)       |         | 117(11.9)  |         | 616         | 123(20)    | 39(19)     |         | 84(20.4)   |         |
| <b>Socio-economic status</b> |             |            |                | <0.01   |            | <0.01   |             |            |            | 0       |            | 0       |
| 1                            | 334         | 85(25.4)   | 36(25)         |         | 49(25.8)   |         | 162         | 68(42)     | 19(34.5)   |         | 49(45.8)   |         |
| 2                            | 1055        | 66(6.3)    | 22(5.8)        |         | 44(6.5)    |         | 409         | 35(8.6)    | 8(5.7)     |         | 27(10)     |         |
| 3                            | 1115        | 85(7.6)    | 34(7.9)        |         | 51(7.4)    |         | 423         | 50(11.8)   | 18(13.4)   |         | 32(11.1)   |         |

|                                |      |           |           |       |           |       |      |           |          |       |           |       |
|--------------------------------|------|-----------|-----------|-------|-----------|-------|------|-----------|----------|-------|-----------|-------|
| <b>Physical activity</b>       |      |           |           | 0.009 |           | 0.025 |      |           |          | 0.025 |           | 0.079 |
| Missing                        | 2    | 0(0)      | 0(0)      |       | 0(0)      |       | 3    | 1(33.3)   | 1(100)   |       | 0(0)      |       |
| Active                         | 691  | 49(7.1)   | 18(6.8)   |       | 31(7.3)   |       | 264  | 30(11.4)  | 7(8.6)   |       | 23(12.6)  |       |
| Sedentary                      | 1910 | 244(12.8) | 102(13.8) |       | 142(12.1) |       | 796  | 158(19.8) | 48(17.6) |       | 110(21)   |       |
| Vigorous                       | 44   | 1(2.3)    | 0(0)      |       | 1(3.7)    |       | 12   | 2(16.7)   | 0(0)     |       | 2(18.2)   |       |
| <b>History of Hypertension</b> |      |           |           | <0.01 |           | <0.01 |      |           |          | 0.671 |           | 0     |
| No                             | 2032 | 191(9.4)  | 73(9.5)   |       | 118(9.3)  |       | 830  | 125(15.1) | 42(15.3) |       | 83(14.9)  |       |
| Yes                            | 591  | 101(17.1) | 45(18.5)  |       | 56(16.1)  |       | 241  | 65(27)    | 14(17.3) |       | 51(31.9)  |       |
| <b>BMI status</b>              |      |           |           | 0.277 |           | 0.016 |      |           |          | 0.26  |           | 0.014 |
| Missing                        | 50   | 2(4)      | 1(4.8)    |       | 1(3.4)    |       | 14   | 0(0)      | 0(0)     |       | 0(0)      |       |
| Normal/Underweight             | 1168 | 109(9.3)  | 46(10.5)  |       | 63(8.7)   |       | 433  | 61(14.1)  | 16(12.4) |       | 45(14.8)  |       |
| Overweight/Obese               | 1429 | 183(12.8) | 73(13)    |       | 110(12.7) |       | 628  | 130(20.7) | 40(18)   |       | 90(22.2)  |       |
| <b>Current tobacco user</b>    |      |           |           | 0.409 |           | 0.106 |      |           |          | 0.587 |           | 0.681 |
| No                             | 1970 | 232(11.8) | 100(12.2) |       | 132(11.5) |       | 895  | 159(17.8) | 48(15.4) |       | 111(19)   |       |
| Yes                            | 677  | 62(9.2)   | 20(10.1)  |       | 42(8.8)   |       | 180  | 32(17.8)  | 8(18.6)  |       | 24(17.5)  |       |
| <b>Alcohol current user</b>    |      |           |           | 0.699 |           | 0.423 |      |           |          | 0.343 |           | 0.931 |
| No                             | 2430 | 274(11.3) | 112(11.9) |       | 162(10.9) |       | 987  | 174(17.6) | 50(15.3) |       | 124(18.8) |       |
| Yes                            | 215  | 20(9.3)   | 8(10.4)   |       | 12(8.7)   |       | 87   | 17(19.5)  | 6(22.2)  |       | 11(18.3)  |       |
| <b>Extra salt in the diet</b>  |      |           |           | 0.808 |           | 0.074 |      |           |          | 0.139 |           | 0.915 |
| No                             | 460  | 43(9.3)   | 18 (12.4) |       | 25(7.9)   |       | 133  | 21(15.8)  | 3(7.7)   |       | 18(19.1)  |       |
| Yes                            | 2177 | 251(11.5) | 102(11.7) |       | 149(11.4) |       | 940  | 170(18.1) | 53(16.9) |       | 117(18.7) |       |
| <b>Diabetes knowledge</b>      |      |           |           | 0.645 |           | 0.495 |      |           |          | 0.449 |           | 0.487 |
| 1                              | 2459 | 277(11.3) | 118(11.8) |       | 159(10.9) |       | 1028 | 185(18)   | 56(16)   |       | 129(19)   |       |
| 2                              | 187  | 17(9.1)   | 2(8.7)    |       | 15(9.1)   |       | 44   | 6(13.6)   | 0(0)     |       | 6(14.6)   |       |

BMI, body mass index; NCR, National Capital Region.