Rationale for supplementary information: Data was analyzed to delve deeper into factors associated with microvascular complications for the study population (presented as Supplementary Table S1). The geographical variation of uncontrolled glycemic status across different zones in India is presented as supplemental figure 1.

Supplementary Table S1. Logistic regression analysis to determine factors associated with microvascular complications of neuropathy, nephropathy and retinopathy

|  |  |  |
| --- | --- | --- |
|   | Neuropathy | Nephropathy |
|   | Univariate |  | Multivariate |  | Univariate |  | Multivariate |  |
|   | OR (95% CI) | p value | OR (95% CI) | p value | OR (95% CI) | p value | OR (95% CI) | p value |
| Age, years |  |  |  |  |  |  |  |  |
| 56-65 vs >65 | 0.80 (0.76, 0.84) | <0.0001 | 0.85 (0.80, 0.90) | <0.0001 | 0.71 (0.66, 0.77) | <0.0001 | 0.78 (0.71, 0.85) | <0.0001 |
| ≤55 vs >65 | 0.52 (0.49, 0.55) | <0.0001 | 0.71 (0.67, 0.76) | <0.0001 | 0.41 (0.38, 0.44) | <0.0001 | 0.6 (0.55, 0.65) | <0.0001 |
| Gender |  |  |  |  |  |  |  |  |
| Male vs Female | 1.04 (1.01, 1.08) | 0.025 |  |  | 1.15 (1.08, 1.22) | <0.0001 |  |  |
| BMI\* |  |  |  |  |  |  |  |  |
| Obesity Vs Normal  | 1.2 (1.13,1.27) | <0.0001 | 1.06(0.99,1.13) | 0.1280 | 1.12 (1.02, 1.23) | 0.0237 |  |  |
| Overweight Vs Normal | 1.07 (0.99,1.15) | 0.0597 | 0.99(0.92,1.07) | 0.8261 | 1.01(0.90, 1.12) | 0.9038 |  |  |
| Blood Pressure† |  |  |  |  |  |  |  |  |
| Prehypertension vs Normal | 1.15 (1.05, 1.27) | 0.0024 |  |  | 1.21 (1.03, 1.42) | 0.019 | 1.14 (0.95, 1.36) | 0.1581 |
| Stage 1 Hypertension vs Normal | 1.33 (1.21, 1.47) | <0.0001 |  |  | 1.66 (1.4, 1.95) | <0.0001 | 1.38 (1.15, 1.66) | 0.0007 |
| Stage 2 Hypertension vs Normal | 1.43 (1.25, 1.64) | <0.0001 |  |  | 2.95 (2.41, 3.61) | <0.0001 | 2.45 (1.96, 3.07) | <0.0001 |
| Diagnosed as Diabetic |  |  |  |  |  |  |  |  |
| >5 years vs Recently | 4.72 (4.34, 5.14) | <0.0001 | 3.23 (2.93, 3.56) | <0.0001 | 6.64 (5.59, 7.88) | <0.0001 | 4.8 (3.92, 5.88) | <0.0001 |
| Past 1-2 years vs Recently | 1.81 (1.64, 1.99) | <0.0001 | 1.54 (1.39, 1.71) | <0.0001 | 2.09 (1.73, 2.53) | <0.0001 | 1.95 (1.57, 2.42) | <0.0001 |
| Past 2-5 years vs Recently | 2.88 (2.64, 3.15) | <0.0001 | 2.22 (2.01, 2.45) | <0.0001 | 3.37 (2.82, 4.02) | <0.0001 | 2.76 (2.25, 3.39) | <0.0001 |
| HbA1c|| |  |  |  |  |  |  |  |  |
| Poor Control vs Good Control | 1.26 (1.20, 1.32) | <0.0001 | 1.15 (1.09, 1.21) | <0.0001 | 1.56 (1.44, 1.68) | <0.0001 | 1.38 (1.27, 1.51) | <0.0001 |
| Statin Use |  |  |  |  |  |  |  |  |
| Yes vs No | 2.06 (1.96, 2.17) | <0.0001 | 1.66 (1.57, 1.76) | <0.0001 | 1.81 (1.66, 1.98) | <0.0001 | 1.26 (1.15, 1.38) | <0.0001 |
| No. of Therapies |  |  |  |  |  |  |  |  |
| Dual vs >3 | 0.74 (0.7, 0.79) | <0.0001 | 0.99 (0.92, 1.06) | 0.8103 | 0.57 (0.52, 0.62) | <0.0001 | 0.78 (0.70, 0.86) | <0.0001 |
| Mono vs >3 | 0.56 (0.52, 0.6) | <0.0001 | 0.97 (0.89, 1.06) | 0.5433 | 0.49 (0.44, 0.55) | <0.0001 | 0.89 (0.78, 1.02) | 0.0874 |
| Triple vs >3 | 0.97 (0.92, 1.04) | 0.3855 | 1.09 (1.02, 1.17) | 0.0126 | 0.74 (0.68, 0.81) | <0.0001 | 0.84 (0.76, 0.92) | 0.0004 |

Supplementary Table S1. Logistic regression analysis to determine factors associated with microvascular complications of retinopathy (Continued)

|  |  |
| --- | --- |
|   | Retinopathy |
|   | Univariate | Multivariate |
|   | OR (95% CI) | p value | OR (95% CI) | p value |
| Age, years |  |  |  |  |
| 56-65 vs >65 | 0.63 (0.58, 0.69) | <0.0001 | 0.69 (0.63, 0.75) | <0.0001 |
| ≤55 vs >65 | 0.36 (0.33, 0.39) | <0.0001 | 0.52 (0.47, 0.57) | <0.0001 |
| Gender |  |  |  |  |
| Male vs Female | 1.12 (1.05, 1.2) | 0.0006 |  |  |
| BMI\* |  |  |  |  |
| Obesity vs Normal | 1.04(0.94, 1.15) | 0.4628 | 0.88(0.78, 0.98) | 0.0251 |
| Overweight Vs Normal | 1.07(0.95, 1.2) | 0.291 | 0.96(0.84, 1.09) | 0.5405 |
| Blood Pressure† |  |  |  |  |
| Prehypertension vs Normal | 1.18 (0.99, 1.39) | 0.0641 | 0.98(0.82, 1.18) | 0.8448 |
| Stage 1 Hypertension vs Normal | 1.63 (1.36, 1.94) | <0.0001 | 1.18(0.98, 1.43) | 0.0872 |
| Stage 2 Hypertension vs Normal | 1.86 (1.47, 2.34) | <0.0001 | 1.16(0.9, 1.5) | 0.2642 |
| Diagnosed as Diabetic |  |  |  |  |
| >5 years vs Recently | 7.71 (6.33, 9.41) | <0.0001 | 5.37(4.25, 6.8) | <0.0001 |
| Past 1-2 years vs Recently | 2.21 (1.78, 2.76) | <0.0001 | 1.87(1.45,2.42) | <0.0001 |
| Past 2-5 years vs Recently | 3.6 (2.93, 4.41) | <0.0001 | 2.923(2.30, 3.72) | <0.0001 |
| HbA1c‡ |  |  |  |  |
| Poor Control vs Good Control | 1.68 (1.54, 1.83) | <0.0001 | 1.47 (1.34, 1.62) | <0.0001 |
| Statin Use |  |  |  |  |
| Yes vs No | 1.95 (1.77, 2.14) | <0.0001 | 1.3 (1.17, 1.44) | <0.0001 |
| No. of Therapies |  |  |  |  |
| Dual vs >3 | 0.54 (0.49, 0.59) | <0.0001 | 0.72 (0.66, 0.8) | <0.0001 |
| Mono vs >3 | 0.39 (0.34, 0.45) | <0.0001 | 0.73 (0.63, 0.85) | <0.0001 |
| Triple vs >3 | 0.71 (0.65, 0.78) | <0.0001 | 0.81 (0.73, 0.89) | <0.0001 |

\*BMI, body mass index: Normal BMI: 18.0-22.9 kg/m2; Overweight 23.0-24.9 kg/m2; Obesity: > 25 kg/m2

 †Blood pressure (mmHg): Normal (SBP <120 and DBP <80), Prehypertension (SBP = 120-139 or DBP = 80-89), Stage I Hypertension (SBP = 140-159 or DBP = 90-99), Stage II Hypertension (SBP ≥160 or DBP ≥100).

‡HbA1c: Good Control (HbA1c <7; <53mmol/mol), Poor Control (HbA1c ≥7; ≥53 mmol/mol)

Supplementary Figure 1. Percentage of type 2 diabetes mellitus patients with uncontrolled glycemic status across different zones in India between 2015 and 2017



Southern zone: Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Karnataka, Pondicherry

Northern zone: Jammu and Kashmir, Delhi, Harayana, Punjab, Uttarakhand, Rajasthan, Uttar Pradesh, Assam, Sikkim, Meghalaya, Tripura

Central zone: Madhya Pradesh, Chhattisgarh

Western zone: Maharashtra, Gujarat, Goa

Eastern zone: West Bengal, Jharkhand, Bihar, Odisha