

criteria) [36]. Participants were divided (as per their baseline BP) into, normotensive (SBP < 120 mmHg and DBP < 80 mmHg), Pre-hypertensive (SBP 120 - 140 mmHg and DBP 80 - 90 mmHg) and Hypertensive (SBP > 140 mmHg and/ or DBP > 90 mmHg), or presently taking anti-hypertensive medication. Further, hypertensives (presently taking anti-hypertensive medication or/ and with a history of HTN diagnosed by a medical physician) including the pre hypertensive were combined in one group opposed to normotensive controls. Self reported cases and individuals with FPG > 126 mg/dl and PGLU > 200 mg/dl were defined as diabetes [37]. Diabetics under treatment and long term management of blood glucose were defined as controlled diabetes with HbA1c values 6% - 8%. On the contrary above 8% were considered uncontrolled diabetes [38]. All self-reported cases were further validated by medical record review and supplementary questionnaires.

## 2.5. Statistical Analysis

The analysis has been carried out after segregating the cases and controls further into hypertensives and nor-

motensives, resulting into four groups in total. The results have been reported as mean  $\pm$  standard deviation. One-way analysis of variance (ANOVA) was used to analyze the statistical differences in the mean of various parameters between the groups.  $\chi^2$ -test was used to compare the proportion of the subjects between different dichotomized variables. Logistic regression analysis was performed to assess the independent effect of hypertensive status on the odds of occurrence of diabetes, after adjusting for confounders. Statistical analyses were performed using SPSS version 12.0 software (SPSS, Chicago, IL, USA). All the reported P-values were two-tailed, and those less than 0.05 were considered statistically significant.

## 3. Results

**Table 1** shows the distribution of HTN across sex, age groups, diabetes status and addiction habits. The overall prevalence rate of HTN was found to be 37.1%, 33.8% of male and 41% in females. However, the intergroup difference is statistically similar ( $P > 0.05$ ). Among different age groups, the rate of HTN increased with age from

**Table 1. Distribution of hypertension across age, gender, BMI, habits and clinical history.**

| Variables                | Category             | Normotensive |      | Hypertensive |      | Total |     | P value |
|--------------------------|----------------------|--------------|------|--------------|------|-------|-----|---------|
|                          |                      | N            | %    | N            | %    | N     | %   |         |
| Diabetes status          | Type 2 Diabetes      | 142          | 48.1 | 153          | 51.9 | 295   | 100 | <0.001  |
|                          | Non Diabetes         | 258          | 75.7 | 83           | 24.3 | 341   | 100 |         |
| Sex                      | Female               | 173          | 59   | 120          | 41   | 293   | 100 | 0.63    |
|                          | Male                 | 227          | 66.2 | 116          | 33.8 | 343   | 100 |         |
| Age groups               | 30 - 39              | 79           | 86.8 | 12           | 13.2 | 91    | 100 | <0.001  |
|                          | 40 - 49              | 141          | 76.2 | 44           | 23.8 | 185   | 100 |         |
|                          | 50 - 59              | 67           | 50.8 | 65           | 49.2 | 132   | 100 |         |
|                          | 60 - 69              | 70           | 47.6 | 77           | 52.4 | 147   | 100 |         |
|                          | 70 - 79              | 34           | 50   | 34           | 50   | 68    | 100 |         |
|                          | 80+                  | 9            | 69.2 | 4            | 30.8 | 13    | 100 |         |
|                          | Normal (<25)         | 179          | 69.6 | 78           | 30.4 | 257   | 100 |         |
| BMI groups               | Overweight (25 - 30) | 158          | 59.8 | 106          | 40.2 | 264   | 100 | 0.009   |
|                          | Obese (>30)          | 65           | 54.8 | 53           | 45.2 | 118   | 100 |         |
|                          | Yes                  | 76           | 71.7 | 30           | 28.3 | 106   | 100 |         |
| Smoking                  | No                   | 296          | 62.3 | 179          | 37.7 | 475   | 100 | 0.03    |
|                          | Quit                 | 28           | 50.9 | 27           | 49.1 | 55    | 100 |         |
|                          | Yes                  | 100          | 67.6 | 48           | 32.4 | 148   | 100 |         |
| Alcohol intake           | No                   | 287          | 62   | 176          | 38   | 463   | 100 | NS      |
|                          | Quit                 | 13           | 52   | 12           | 48   | 25    | 100 |         |
|                          | <6%                  | 270          | 71.8 | 106          | 28.2 | 376   | 100 |         |
| Glycated haemoglobin A1c | 6% - 8%              | 87           | 50.9 | 84           | 49.1 | 171   | 100 | <0.001  |
|                          | >8%                  | 43           | 48.3 | 46           | 51.7 | 89    | 100 |         |
|                          | Total                | 400          | 62.9 | 236          | 37.1 | 636   | 100 |         |