*Supplementary Material*

# Respiratory Symptoms in Relation to Living Near a Crude Oil First Treatment Plant in Italy: A Cross-Sectional Study

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## Method for the sample extraction

From the municipal registries of the two municipalities, 3,641 residents were selected (at 31th December 2014) aged 17-73, divided by gender, age class and residential municipality (Tables S1-S4).

**Table S1.** Subjects aged 17-73 residing in Viggiano and Grumento Nova municipalities.

| Municipality | Number | % |
|---|---|---|
| **Viggiano** | 2393 | 65.7 |
| **Grumento Nova** | 1248 | 34.3 |
| *TOTAL* | 3641 | 100 |

**Table S2.** Gender of subjects aged 17-73 residing in Viggiano and Grumento Nova municipalities.

| Gender | Number | % |
|---|---|---|
| **Men** | 1833 | 50.3 |
| **Women** | 1808 | 49.7 |
| *TOTAL* | 3641 | 100 |

**Table S3.** Age classes of subjects aged 17-73 residing in Viggiano and Grumento Nova municipalities.

| Age class | Number | % |
|---|---|---|
| **17-26** | 563 | 15.5 |
| **27-36** | 735 | 20.2 |
| **37-46** | 675 | 18.5 |
| **47-56** | 776 | 21.3 |
| **57-66** | 653 | 17.9 |
| **67-73** | 239 | 6.6 |
| *TOTAL* | 3641 | 100.00 |

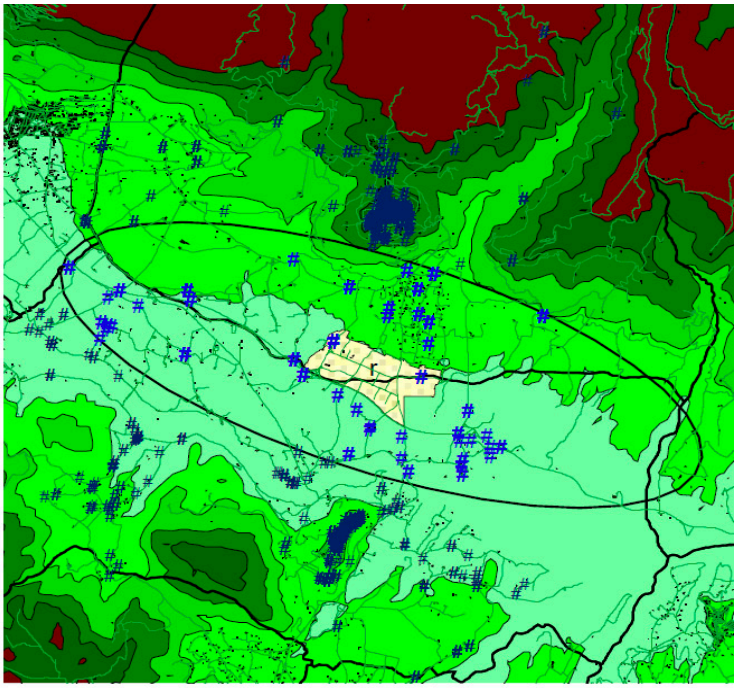
**Table S4.** Subjects aged 17-73 residing in Viggiano and Grumento Nova municipalities by municipality. gender and age classes.

| | Men | | | | | | Women | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Age class** | **17-26** | **27-36** | **37-46** | **47-56** | **57-66** | **67-73** | **17-26** | **27-36** | **37-46** | **47-56** | **57-66** | **67-73** |
| **Viggiano** | 192 | 254 | 251 | 259 | 193 | 64 | 194 | 247 | 205 | 266 | 192 | 76 |
| **Grumento Nova** | 87 | 130 | 102 | 123 | 124 | 54 | 90 | 104 | 117 | 128 | 144 | 45 |
| ***TOTAL*** | 279 | 384 | 353 | 382 | 317 | 118 | 284 | 351 | 322 | 394 | 336 | 121 |

The sampling was performed several months before the spirometry, in order to avoid to do the spirometric test in those seasons in which the incidence of influenzae and of allergic episodes is higher. Sampling selection referred to an age range 17-73 ensuring the recruitment of a final sample to be submitted to spirometric tests in the age range 18-74.

Subjects residing in the proximal area (PA) were 529 and those residing in the reference area (RA) were 3,112 (Figure S1). The PA and RA boundaries do not match with the municipal ones. As reported in the manuscript PA and RA were defined by an ellipse of major and minor axis of 12 and 4 km, respectively, centered on the plant.

**Figure S1.** Distribution of residents in the municipalities of Viggiano and Grumento Nova in the range of 17-73 years. In light blue subjects residing in the PA. In dark blue subjects residing in the RA.



Subjects residing in the PA were divided in age classes, defined considering the tertiles of age, gender and municipality (Table S5).

**Table S5.** Distribution by municipality, gender and tertile of age of residents, aged 17-73, in the municipalities of Viggiano and Grumento Nova, classified as resident in the PA.

| | Men | | | | Women | | | |
|---|---|---|---|---|---|---|---|---|
| **Age class** | **17-35** | **36-53** | **54-73** | ***Total*** | **17-35** | **36-53** | **54-73** | ***Total*** |
| **Viggiano** | 63(11.9) | 63 (11.9) | 56 (10.6) | 182 | 58 (10.9) | 49 (9.3) | 44 (8.3) | 151 |
| **Grumento Nova** | 30 (5.7) | 33 (6.2) | 39(7.4) | 102 | 26 (4.9) | 31 (5.9) | 37 (7.0) | 94 |
| **TOTAL** | 93 | 96 | 95 | 284 | 84 | 80 | 81 | 245 |

Note - In brackets is shown the percentage with respect to the 529 subject residing in the PA.

Therefore, 120 subjects residing in the PA (22.7% on 529) were randomly extracted on the basis of the distribution for municipality-gender-age class. The entity of the sample in each cell was re-calculated distributing the 120 subjects to be extracted on the basis of percentages reported in Table 6.

**Table S6.** Distribution by municipality, gender and tertile of age of residents, aged 17-73 and classified as resident in the PA, of the sample for the study on respiratory function.

| | Men | | | | Women | | | |
|---|---|---|---|---|---|---|---|---|
| **Age class** | **17-35** | **36-53** | **54-73** | ***Total*** | **17-35** | **36-53** | **54-73** | ***Total*** |
| **Viggiano** | 14 | 14 | 13 | 41 | 13 | 11 | 10 | 34 |
| **Grumento Nova** | 7 | 8 | 9 | 24 | 6 | 7 | 8 | 21 |
| **TOTAL** | 21 | 22 | 22 | 65 | 19 | 18 | 18 | 55 |

Subjects residing in the RA were divided by age classes, defined considering the tertiles of age, gender and municipality (Table S7).

**Table S7.** Distribution by municipality, gender and tertile of age of residents, aged 17-73, in the municipalities of Viggiano and Grumento Nova, classified as resident in the RA.

| | Men | | | | Women | | | |
|---|---|---|---|---|---|---|---|---|
| **Age class** | **17-35** | **36-53** | **54-73** | ***Total*** | **17-35** | **36-53** | **54-73** | ***Total*** |
| **Viggiano** | 355(11.4) | 365 (11.7) | 311 (10.0) | 1031 | 354 (11.4) | 352 (11.3) | 323 (10.4) | 1029 |
| **Grumento Nova** | 171 (5.5) | 150 (4.8) | 197(6.3) | 518 | 158 (5.1) | 170 (5.9) | 206 (7.0) | 534 |
| **TOTAL** | 526 | 515 | 508 | 1549 | 512 | 522 | 529 | 1563 |

Note - In brackets is shown the percentage with respect to the 3112 subject residing in the RA.

Distribution by age, gender and municipality of subject residing in the RA is similar to that of the residents in the PA. This allowed to extract a sample that reflects the age-gender-municipality distribution of the residents of both the areas (frequency matching).

The numerosity of the extracted sample of subjects residing in in theR is the same of the that of those residing in the PA (120 subjects represent the 3.6% of the total of the subjects residing outside the PA). The sample was randomly extracted for each municipality-gender-age class cell. The numerosity of the sample of each cell was calculated re-distributing the 120 subjects to be extracted on the basis of percentages reported in the previous table. The extracted sample is reported in Table S8.

**Table S8.** Distribution by municipality, gender and tertile of age of residents, aged 17-73 and classified as resident in the RA, of the sample for the study on respiratory function.

| | **Men** | | | | **Women** | | | |
|---|---|---|---|---|---|---|---|---|
| **Age class** | **17-35** | **36-53** | **54-73** | ***Total*** | **17-35** | **36-53** | **54-73** | ***Total*** |
| **Viggiano** | 14 | 14 | 12 | 40 | 13 | 13 | 12 | 38 |
| **Grumento Nova** | 7 | 6 | 8 | 21 | 6 | 7 | 8 | 21 |
| **TOTAL** | 21 | 20 | 20 | 61 | 19 | 20 | 20 | 59 |

Table S9 shows distribution by municipality, gender and residence area of the analyzed sample.

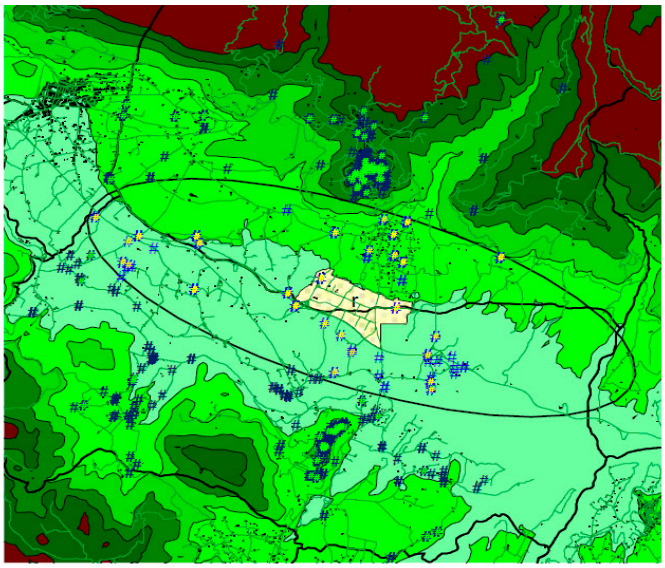
**Table S9.** Distribution by municipality, gender and residence area of the 191 subjects of the sample used for the descriptive and multivariate analysis.

| **Municipality** | | **Men** | | **Women** | | **Men+Women** | | **Men+Women** |
|---|---|---|---|---|---|---|---|---|
| | | **PA** | **RA** | **PA** | **RA** | **PA** | **REA** | **Total** |
| **Viggiano** | **Selected** | 41 | 40 | 34 | 38 | 75 | 78 | **153** |
| | **Study sample** | 34 | 35 | 23 | 32 | 57 | 67 | **124** |
| **Grumento Nova** | **Selected** | 24 | 21 | 21 | 21 | 45 | 42 | **87** |
| | **Study sample** | 16 | 19 | 18 | 14 | 34 | 33 | **67** |
| **Total** | **Selected** | 65 | 61 | 55 | 59 | 120 | 120 | **240** |
| | **Study sample** | 50 | 54 | 41 | 46 | 91 | 100 | **191** |

Notes: PA: Proximal Area; RA: Reference Area.

Figure S2 shows all the residents. Samples extracted are representative of the spatial distribution within the two sampling areas, adopting a different fraction of sampling aimed at ensuring a greater number of subjects in the PA.

**Figure S2.** Distribution of the sample of the respiratory function study extracted from residents in the municipalities of Viggiano and Grumento Nova ages 17-73, identifying subjects in the PA (yellow) and subjects in the RA (light green).



## Spirometry results

**Table S10.** Results of the spirometry test.

| *PERSONAL DATA* | | | | | | | *SPIROMETRY* | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *IND_COD* | *DATE* | *AGE (years)* | *HEIGHT (cm)* | *WEIGHT (kg)* | *SEX* | *BMI (kg/m²)* | *FVC (L)* | *FEV₁ (L)* | *FEV₁/FVC %* | *FEV25-75% (L/sec)* | *PEF (L/sec)* | *FEF25% (L/sec)* | *FEF50% (L/sec)* | *FEF75% (L/sec)* |
| VF133 | 02/12/16 | 47 | 159 | 73 | F | 28.88 | 111 | 102 | 79 | 73 | 90 | 100 | 122 | 50 |
| VF124 | 02/12/16 | 22 | 158 | 87 | F | 34.85 | 116 | 99 | 74 | 59 | 94 | | 67 | |
| GM55 | 02/12/16 | 74 | 160 | 90 | M | 35.16 | 81 | 72 | 67 | 40 | 60 | 40 | 38 | 56 |
| GF23 | 02/12/16 | 69 | 146 | 65 | F | 30.49 | 143 | 153 | 87 | 96 | 125 | 125 | 97 | 111 |
| GF5 | 02/12/16 | 42 | 160 | 63 | F | 24.61 | 128 | 127 | 85 | 115 | 122 | 132 | 146 | 99 |
| VM188 | 02/12/16 | 47 | 160 | 55 | M | 21.48 | 95 | 95 | 83 | 73 | 94 | 108 | 94 | 61 |
| GF27 | 02/12/16 | 25 | 158 | 60 | F | 24.03 | 110 | 112 | 89 | 94 | 84 | 88 | 99 | 99 |
| VM108 | 02/12/16 | 62 | 168 | 107 | M | 37.91 | 88 | 105 | 93 | 140 | 104 | 108 | 154 | 153 |
| GF29 | 02/12/16 | 55 | 162 | 55 | F | 20.96 | 108 | 103 | 81 | 81 | 89 | 89 | 80 | 90 |
| VM125 | 02/12/16 | 61 | 163 | 91 | M | 34.25 | 76 | 59 | 62 | 24 | 79 | 69 | 24 | 23 |
| GM36 | 03/12/16 | 61 | 162 | 108 | M | 41.15 | 111 | 119 | 85 | 127 | 99 | 100 | 141 | 144 |
| GM21 | 03/12/16 | 55 | 171 | 69 | M | 23.60 | 122 | 123 | 81 | 121 | 99 | 91 | 144 | 97 |
| VF6 | 03/12/16 | 30 | 151 | 55 | F | 24.12 | 102 | 102 | 86 | 91 | 105 | 92 | 107 | 80 |
| GM71 | 03/12/16 | 60 | 168 | 99 | M | 35.08 | 93 | 93 | 79 | 79 | 66 | 63 | 83 | 86 |
| VF83 | 03/12/16 | 51 | 145 | 65 | F | 30.92 | 105 | 111 | 88 | 106 | 104 | 108 | 116 | 106 |
| VF102 | 03/12/16 | 38 | 156 | 55 | F | 22.60 | 129 | 126 | 84 | 111 | 122 | 135 | 132 | 88 |
| VM28 | 03/12/16 | 22 | 168 | 67 | M | 23.74 | 132 | 139 | 90 | 115 | 80 | 93 | 114 | 157 |
| VF72 | 03/12/16 | 57 | 159 | 75 | F | 29.67 | 129 | 133 | 87 | 128 | 116 | 130 | 158 | 123 |
| GM89 | 03/12/16 | 55 | 177 | 81 | M | 25.85 | 114 | 117 | 82 | 117 | 122 | 139 | 130 | 86 |
| VM149 | 04/12/16 | 35 | 174 | 119 | M | 39.31 | 105 | 106 | 84 | 103 | 141 | 164 | 129 | 80 |
| VM131 | 04/12/16 | 57 | 162 | 65 | M | 24.77 | 141 | 145 | 82 | 136 | 141 | 157 | 179 | 114 |
| VF98 | 04/12/16 | 49 | 160 | 53 | F | 20.70 | 119 | 118 | 85 | 103 | 114 | 128 | 105 | 110 |
| VM89 | 04/12/16 | 32 | 173 | 75 | M | 25.06 | 107 | 98 | 76 | 70 | 93 | 94 | 76 | 66 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VM85 | 04/12/16 | 23 | 174 | 85 | M | 28.08 | 115 | 119 | 88 | 127 | 105 | 123 | 141 | 130 | |
| VF65 | 04/12/16 | 61 | 163 | 73 | F | 27.48 | 111 | 101 | 76 | 68 | 94 | 105 | 85 | 51 | |
| GF28 | 04/12/16 | 41 | 156 | 64 | F | 26.30 | 123 | 120 | 84 | 97 | 91 | 92 | 113 | 90 | |
| GM38 | 04/12/16 | 59 | 168 | 73 | M | 25.86 | 116 | 122 | 84 | 134 | 139 | 153 | 180 | 101 | |
| GF43 | 04/12/16 | 35 | 151 | 122 | F | 53.51 | 100 | 98 | 85 | 80 | 112 | 117 | 103 | 61 | |
| GM8 | 04/12/16 | 37 | 172 | 85 | M | 28.73 | 127 | 125 | 82 | 116 | 126 | 145 | 141 | 98 | |
| VM117 | 05/12/16 | 48 | 177 | 94 | M | 30.00 | 119 | 117 | 80 | 96 | 142 | 161 | 108 | 78 | |
| VM71 | 05/12/16 | 32 | 163 | 49 | M | 18.44 | 91 | 102 | 96 | 95 | 59 | 68 | 93 | 169 | |
| VF146 | 05/12/16 | 62 | 158 | 72 | F | 28.84 | 122 | 121 | 83 | 106 | 122 | 133 | 119 | 82 | |
| GF77 | 05/12/16 | 39 | 150 | 59 | F | 26.22 | 109 | 109 | 85 | 87 | 89 | 96 | 102 | 83 | |
| VF49 | 05/12/16 | 41 | 165 | 83 | F | 30.49 | 99 | 88 | 77 | 62 | 76 | 85 | 67 | 53 | |
| VF11 | 07/12/16 | 25 | 155 | 52 | F | 21.64 | 104 | 100 | 84 | 76 | 63 | 63 | 76 | 109 | |
| VF80 | 07/12/16 | 57 | 171 | 85 | F | 29.07 | 118 | 108 | 77 | 84 | 102 | 110 | 106 | 59 | |
| GF40 | 07/12/16 | 46 | 157 | 78 | F | 31.64 | 101 | 109 | 92 | 93 | 104 | 110 | 91 | 118 | |
| VM96 | 07/12/16 | 28 | 171 | 74 | M | 25.31 | 103 | 102 | 84 | 93 | 121 | 136 | 103 | 82 | |
| GM20 | 07/12/16 | 28 | 178 | 76 | M | 23.99 | 104 | 110 | 89 | 128 | 100 | 118 | 153 | 133 | |
| VF99 | 07/12/16 | 35 | 165 | 76 | F | 27.92 | 109 | 109 | 87 | 112 | 115 | 121 | 116 | 110 | |
| GF42 | 07/12/16 | 31 | 176 | 75 | F | 24.21 | 121 | 102 | 74 | 74 | 82 | 82 | 86 | 62 | |
| GM47 | 07/12/46 | 74 | 162 | 70 | M | 26.67 | 95 | 101 | 80 | 92 | 75 | 79 | 110 | 92 | |
| GF37 | 09/12/16 | 19 | 160 | 67 | F | 26.17 | 119 | 117 | 86 | 104 | 99 | 111 | 107 | 95 | |
| VF26 | 09/12/16 | 35 | 162 | 73 | F | 27.82 | 127 | 122 | 83 | 116 | 122 | 139 | 155 | 86 | |
| GM50 | 09/12/16 | 74 | 162 | 78 | M | 29.72 | 86 | 93 | 83 | 90 | 81 | 88 | 108 | 84 | |
| GM64 | 09/12/16 | 27 | 181 | 72 | M | 21.98 | 111 | 119 | 90 | 127 | 101 | 118 | 128 | 134 | |
| GF75 | 09/12/16 | 72 | 145 | 65 | F | 30.92 | 141 | 154 | 87 | 146 | 98 | 91 | 138 | 188 | |
| GF87 | 09/12/16 | 32 | 165 | 63 | F | 23.14 | 113 | 110 | 84 | 97 | 113 | 122 | 108 | 86 | |
| GF57 | 09/12/16 | 62 | 155 | 59 | F | 24.56 | 116 | 112 | 81 | 84 | 115 | 127 | 118 | 68 | |
| VM126 | 09/12/16 | 55 | 171 | 77 | M | 26.33 | 107 | 102 | 76 | 75 | 100 | 114 | 96 | 52 | |
| GM51 | 09/12/16 | 46 | 179 | 95 | M | 29.65 | 113 | 100 | 72 | 62 | 114 | 130 | 74 | 43 | |
| VM136 | 09/12/16 | 66 | 172 | 95 | M | 32.11 | 93 | 76 | 63 | 41 | 83 | 48 | 40 | 40 | |
| GM65 | 09/12/16 | 37 | 177 | 97 | M | 30.96 | 105 | 120 | 94 | 164 | 121 | 140 | 167 | 211 | |
| GM32 | 10/12/16 | 61 | 163 | 73 | M | 27.48 | 103 | 99 | 77 | 69 | 100 | 96 | 78 | 71 | |
| GF60 | 10/12/16 | 58 | 161 | 77 | F | 29.71 | 114 | 103 | 77 | 60 | 85 | 76 | 57 | 65 | |
| GF80 | 10/12/16 | 30 | 153 | 53 | F | 22.64 | 105 | 101 | 84 | 81 | 94 | 102 | 94 | 69 | |
| GM69 | 10/12/16 | 69 | 162 | 76 | M | 28.96 | 105 | 109 | 80 | 95 | 131 | 146 | 117 | 76 | |
| GF82 | 10/12/16 | 59 | 151 | 75 | F | 32.89 | 127 | 134 | 88 | 135 | 93 | 96 | 133 | 166 | |
| GM31 | 10/12/16 | 24 | 166 | 74 | M | 26.85 | 104 | 97 | 80 | 69 | 111 | 114 | 76 | 73 | |
| GF93 | 10/12/16 | 58 | 148 | 54 | F | 24.65 | 103 | 120 | 97 | 113 | 103 | 101 | 116 | 143 | |
| GM06 | 12/12/16 | 28 | 175 | 74 | M | 24.16 | 88 | 86 | 82 | 79 | 59 | 64 | 93 | 75 | |
| VF129 | 12/12/16 | 61 | 150 | 74 | F | 32.89 | 115 | 110 | 79 | 69 | 115 | 109 | 90 | 47 | |
| VF95 | 12/12/16 | 43 | 157 | 62 | F | 25.15 | 150 | 138 | 79 | 98 | 108 | 111 | 112 | 88 | |
| GM85 | 12/12/16 | 38 | 165 | 65 | M | 23.88 | 113 | 111 | 83 | 95 | 98 | 112 | 103 | 96 | |
| GF56 | 12/12/16 | 68 | 151 | 89 | F | 39.03 | 104 | 101 | 79 | 54 | 83 | 82 | 66 | 42 | |
| VF48 | 12/12/16 | 23 | 167 | 71 | F | 25.46 | 99 | 93 | 82 | 71 | 105 | 114 | 74 | 65 | |
| VM106 | 14/12/16 | 31 | 174 | 126 | M | 41.62 | 97 | 98 | 85 | 106 | 130 | 149 | 155 | 75 | |
| VF121 | 14/12/16 | 28 | 175 | 67 | F | 21.88 | 103 | 100 | 84 | 97 | 99 | 113 | 121 | 84 | |
| GF61 | 14/12/16 | 34 | 161 | 66 | F | 25.46 | 115 | 117 | 88 | 141 | 102 | 102 | 145 | 143 | |
| GM76 | 14/12/16 | 57 | 176 | 103 | M | 33.25 | 104 | 100 | 77 | 77 | 110 | 119 | 75 | 75 | |
| VM33 | 14/12/16 | 42 | 160 | 74 | M | 28.91 | 119 | 133 | 93 | 154 | 122 | 138 | 194 | 178 | |
| GF90 | 15/12/16 | 48 | 160 | 98 | F | 38.28 | 94 | 92 | 84 | 94 | 114 | 105 | 149 | 60 | |
| GM19 | 15/12/16 | 66 | 176 | 78 | M | 25.18 | 112 | 104 | 72 | 65 | 96 | 107 | 87 | 40 | |
| VF119 | 15/12/16 | 37 | 156 | 69 | F | 28.35 | 105 | 94 | 77 | 61 | 77 | 76 | 76 | 50 | |
| VF90 | 15/12/16 | 25 | 159 | 55 | F | 21.76 | 104 | 108 | 90 | 109 | 86 | 97 | 113 | 115 | |
| GM84 | 16/12/16 | 27 | 169 | 77 | M | 26.96 | 110 | 117 | 90 | 140 | 92 | 106 | 151 | 177 | |
| VM59 | 16/12/16 | 46 | 174 | 107 | M | 35.34 | 118 | 100 | 69 | 61 | 77 | 81 | 66 | 46 | |
| VF42 | 16/12/16 | 51 | 164 | 74 | F | 27.51 | 137 | 138 | 86 | 138 | 123 | 134 | 158 | 130 | |
| VM19 | 16/12/16 | 28 | 180 | 75 | M | 23.15 | 84 | 82 | 81 | 70 | 100 | 111 | 84 | 56 | |
| GM49 | 19/12/16 | 38 | 181 | 104 | M | 31.75 | 101 | 98 | 80 | 73 | 68 | 65 | 68 | 86 | |
| GM81 | 19/12/16 | 46 | 170 | 88 | M | 30.45 | 96 | 87 | 75 | 52 | 104 | 115 | 59 | 44 | |
| GF79 | 19/12/16 | 38 | 155 | 73 | F | 30.39 | 114 | 109 | 82 | 85 | 105 | 109 | 106 | 71 | |
| GM73 | 19/12/16 | 50 | 181 | 122 | M | 37.24 | 110 | 113 | 82 | 112 | 102 | 117 | 110 | 96 | |
| GF4 | 21/12/16 | 52 | 154 | 67 | F | 28.25 | 114 | 113 | 84 | 95 | 79 | 67 | 92 | 122 | |
| GM35 | 21/12/16 | 29 | 174 | 78 | M | 25.76 | 115 | 118 | 86 | 115 | 108 | 120 | 134 | 114 | |
| VF152 | 21/12/16 | 28 | 152 | 51 | F | 22.07 | 101 | 106 | 91 | 94 | 87 | 91 | 103 | 106 | |
| VM93 | 21/12/16 | 63 | 167 | 79 | M | 28.33 | 108 | 104 | 76 | 76 | 100 | 85 | 82 | 70 | |
| GM83 | 21/12/16 | 50 | 171 | 96 | M | 32.83 | 91 | 73 | 65 | 40 | 89 | | 40 | | |
| GF70 | 22/12/16 | 54 | 153 | 63 | F | 26.91 | 66 | 72 | 92 | 85 | 89 | 78 | 141 | 59 | |
| VM105 | 22/12/16 | 48 | 180 | 100 | M | 30.86 | 99 | 94 | 76 | 72 | 120 | 125 | 72 | 59 | |
| VM104 | 22/12/16 | 59 | 167 | 84 | M | 30.12 | 83 | 70 | 67 | 36 | 97 | 89 | 41 | 30 | |
| GM92 | 22/12/16 | 30 | 174 | 78 | M | 25.76 | 105 | 94 | 75 | 61 | 129 | 91 | 76 | 50 | |
| GF91 | 22/12/16 | 25 | 158 | 61 | F | 24.44 | 127 | 122 | 84 | 104 | 102 | 114 | 123 | 91 | |
| VM1 | 22/12/16 | 40 | 172 | 76 | M | 25.69 | 90 | 98 | 90 | 117 | 89 | 65 | 124 | 168 | |
| VM17 | 22/12/16 | 26 | 180 | 69 | M | 21.30 | 100 | 101 | 85 | 98 | 105 | 123 | 115 | 94 | |
| GM59 | 22/12/16 | 29 | 171 | 83 | M | 28.38 | 109 | 104 | 81 | 88 | 82 | 96 | 109 | 81 | |
| VM151 | 22/12/16 | 49 | 171 | 107 | M | 36.59 | 99 | 88 | 72 | 56 | 90 | 86 | 69 | 52 | |
| GM63 | 22/12/16 | 20 | 166 | 88 | M | 31.93 | 96 | 85 | 76 | 59 | 68 | 71 | 69 | 60 | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VF140 | 23/12/16 | 27 | 157 | 63 | F | 25.56 | 116 | 98 | 74 | 55 | 104 | 104 | 62 | 48 | |
| GF13 | 23/12/16 | 62 | 149 | 53 | F | 23.87 | 110 | 99 | 74 | 52 | 66 | 46 | 66 | 43 | |
| VM45 | 30/12/16 | 46 | 175 | 80 | M | 26.12 | 98 | 107 | 89 | 149 | 100 | 113 | 142 | 181 | |
| GM48 | 30/12/16 | 53 | 160 | 80 | M | 31.25 | 127 | 135 | 87 | 122 | 69 | 78 | 114 | 219 | |
| VM15 | 18/10/16 | 18 | 166 | 75 | M | 27.22 | 135 | 113 | 72 | 72 | 93 | | 79 | | |
| VF7 | 18/10/16 | 44 | 158 | 53 | F | 21.23 | 117 | 118 | 86 | 119 | 118 | | 140 | | |
| VM20 | 18/10/16 | 39 | 177 | 85 | M | 27.13 | 107 | 104 | 80 | 85 | 124 | | 99 | | |
| VM4 | 18/10/16 | 60 | 160 | 70 | M | 27.34 | 113 | 113 | 80 | 90 | 151 | | 122 | | |
| GF25 | 18/10/16 | 40 | 151 | 88 | F | 38.59 | 95 | 96 | 87 | 83 | 85 | | 114 | | |
| VM12 | 15/11/16 | 65 | 172 | 98 | M | 33.13 | 97 | 99 | 80 | 88 | 128 | 144 | 95 | 72 | |
| VF8 | 15/11/16 | 55 | 165 | 89 | F | 32.69 | 101 | 91 | 77 | 68 | 113 | 119 | 107 | 42 | |
| VM21 | 15/11/16 | 70 | 171 | 78 | M | 26.67 | 105 | 108 | 79 | 105 | 102 | 107 | 135 | 72 | |
| VM23 | 15/11/16 | 72 | 165 | 81 | M | 29.75 | 84 | 69 | 63 | 33 | 68 | 58 | 29 | 33 | |
| VF24 | 15/11/16 | 65 | 155 | 61 | F | 25.39 | 108 | 117 | 90 | 152 | 124 | 119 | 189 | 155 | |
| VM30 | 15/11/16 | 65 | 175 | 93 | M | 30.37 | 91 | 101 | 86 | 136 | 107 | 118 | 145 | 124 | |
| VF35 | 15/11/16 | 60 | 160 | 82 | F | 32.03 | 91 | 90 | 83 | 78 | 88 | 95 | 85 | 66 | |
| VF36 | 15/11/16 | 41 | 155 | 95 | F | 39.54 | 98 | 95 | 83 | 74 | 108 | 120 | 85 | 64 | |
| VM34 | 15/11/16 | 64 | 168 | 90 | M | 31.89 | 111 | 116 | 82 | 108 | 90 | 100 | 126 | 108 | |
| VF145 | 16/11/16 | 28 | 153 | 55 | F | 23.50 | 98 | 100 | 89 | 97 | 88 | 86 | 108 | 98 | |
| VM5 | 16/11/16 | 42 | 181 | 87 | M | 26.56 | 112 | 113 | 82 | 109 | 108 | 115 | 132 | 91 | |
| VF143 | 16/11/16 | 45 | 156 | 51 | F | 20.96 | 119 | 123 | 88 | 118 | 118 | 110 | 137 | 121 | |
| VF137 | 16/11/16 | 68 | 158 | 74 | F | 29.64 | 104 | 108 | 87 | 92 | 108 | 117 | 92 | 118 | |
| VM142 | 16/11/16 | 69 | 165 | 80 | M | 29.38 | 80 | 78 | 75 | 53 | 89 | 99 | 58 | 46 | |
| VM39 | 16/11/16 | 39 | 172 | 96 | M | 32.45 | 102 | 106 | 86 | 102 | 128 | 143 | 107 | 108 | |
| VF147 | 16/11/16 | 38 | 156 | 76 | F | 31.23 | 104 | 107 | 89 | 123 | 108 | 120 | 151 | 112 | |
| VF44 | 16/11/16 | 64 | 158 | 79 | F | 31.65 | 126 | 117 | 77 | 77 | 118 | 92 | 93 | 67 | |
| VF141 | 16/11/16 | 60 | 150 | 64 | F | 28.44 | 124 | 123 | 83 | 90 | 107 | 107 | 121 | 78 | |
| VM120 | 17/11/16 | 59 | 171 | 84 | M | 28.73 | 136 | 127 | 74 | 86 | 147 | 156 | 104 | 63 | |
| VM134 | 17/11/16 | 43 | 170 | 74 | M | 25.61 | 118 | 123 | 85 | 140 | 128 | 130 | 181 | 114 | |
| VM144 | 17/11/16 | 70 | 167 | 70 | M | 25.10 | 88 | 96 | 84 | 116 | 93 | 73 | 126 | 109 | |
| VM118 | 17/11/16 | 55 | 162 | 93 | M | 35.44 | 99 | 95 | 78 | 76 | 76 | 67 | 107 | 54 | |
| VF92 | 17/11/16 | 50 | 163 | 94 | F | 35.38 | 120 | 111 | 79 | 81 | 131 | 143 | 95 | 69 | |
| GM46 | 17/11/16 | 53 | 174 | 80 | M | 26.42 | 109 | 89 | 65 | 50 | 86 | 68 | 52 | 43 | |
| VF135 | 17/11/16 | 34 | 160 | 86 | F | 33.59 | 102 | 105 | 88 | 129 | 141 | 153 | 166 | 110 | |
| GF53 | 17/11/16 | 57 | 156 | 70 | F | 28.76 | 128 | 127 | 83 | 105 | 102 | 103 | 135 | 88 | |
| VF115 | 17/11/16 | 24 | 156 | 63 | F | 25.89 | 115 | 110 | 83 | 93 | 109 | 121 | 131 | 71 | |
| GF2 | 27/11/16 | 64 | 158 | 98 | F | 39.26 | 82 | 77 | 78 | 52 | 98 | | 78 | | |
| VM56 | 27/11/16 | 29 | 167 | 79 | M | 28.33 | 119 | 124 | 88 | 124 | 86 | 85 | 128 | 175 | |
| GM54 | 27/11/16 | 71 | 175 | 83 | M | 27.10 | 96 | 100 | 80 | 92 | 101 | 106 | 98 | 77 | |
| VM53 | 27/11/16 | 60 | 172 | 64 | M | 21.63 | 102 | 104 | 73 | 69 | 98 | 109 | 89 | 48 | |
| VF43 | 27/11/16 | 20 | 165 | 68 | F | 24.98 | 88 | 93 | 91 | 94 | 74 | 87 | 110 | 119 | |
| VF29 | 27/11/16 | 34 | 150 | 54 | F | 24.00 | 116 | 113 | 84 | 88 | 106 | 115 | 120 | 74 | |
| VM69 | 27/11/16 | 28 | 185 | 85 | M | 24.84 | 110 | 111 | 84 | 109 | 117 | 131 | 116 | 95 | |
| VF47 | 27/11/16 | 56 | 155 | 66 | F | 27.47 | 105 | 105 | 84 | 85 | 92 | 96 | 108 | 69 | |
| VF58 | 27/11/16 | 51 | 159 | 92 | F | 36.39 | 113 | 102 | 76 | 65 | 92 | 95 | 84 | 43 | |
| GM12 | 27/11/16 | 42 | 181 | 73 | M | 22.28 | 112 | 100 | 73 | 73 | 74 | 84 | 78 | 55 | |
| VF75 | 29/11/16 | 66 | 157 | 70 | F | 28.40 | 98 | 94 | 80 | 62 | 94 | 104 | 73 | 43 | |
| VM66 | 29/11/16 | 69 | 153 | 57 | M | 24.35 | 140 | 129 | 72 | 66 | 127 | 141 | 96 | 56 | |
| VM79 | 29/11/16 | 62 | 171 | 104 | M | 35.57 | 95 | 98 | 81 | 86 | 113 | 123 | 80 | 90 | |
| VF78 | 29/11/16 | 43 | 163 | 92 | F | 34.63 | 101 | 92 | 79 | 64 | 108 | 107 | 76 | 56 | |
| VM64 | 29/11/16 | 73 | 175 | 88 | M | 28.73 | 91 | 59 | 49 | 26 | 48 | 30 | 22 | 42 | |
| GF88 | 29/11/16 | 56 | 155 | 92 | F | 38.29 | 112 | 104 | 78 | 67 | 106 | 106 | 81 | 54 | |
| VF74 | 29/11/16 | 47 | 160 | 59 | F | 23.05 | 122 | 118 | 83 | 93 | 136 | 150 | 107 | 81 | |
| VM62 | 29/11/16 | 46 | 188 | 101 | M | 28.58 | 95 | 95 | 80 | 95 | 85 | 96 | 119 | 67 | |
| GF11 | 29/11/16 | 27 | 160 | 63 | F | 24.61 | 104 | 106 | 89 | 113 | 98 | 98 | 121 | 109 | |
| VM67 | 29/11/16 | 35 | 176 | 90 | M | 29.05 | 101 | 102 | 83 | 92 | 108 | 122 | 97 | 93 | |
| GF16 | 30/11/16 | 73 | 154 | 86 | F | 36.26 | 85 | 91 | 88 | 78 | 82 | 73 | 80 | 86 | |
| VM76 | 30/11/16 | 19 | 180 | 79 | M | 24.38 | 107 | 117 | 91 | 156 | 107 | 113 | 172 | 166 | |
| VM77 | 30/11/16 | 51 | 173 | 112 | M | 37.42 | 108 | 104 | 78 | 85 | 99 | 108 | 103 | 63 | |
| GM17 | 30/11/16 | 51 | 177 | 98 | M | 31.28 | 98 | 104 | 85 | 151 | 130 | 140 | 198 | 109 | |
| VF38 | 30/11/16 | 45 | 160 | 54 | F | 21.09 | 99 | 95 | 82 | 79 | 72 | 78 | 89 | 77 | |
| VM55 | 30/11/16 | 52 | 175 | 84 | M | 27.43 | 107 | 101 | 76 | 74 | 120 | 130 | 90 | 66 | |
| GM18 | 30/11/16 | 58 | 174 | 88 | M | 29.07 | 119 | 124 | 83 | 132 | 112 | 106 | 138 | 120 | |
| VF84 | 30/11/16 | 57 | 156 | 58 | F | 23.83 | 124 | 121 | 82 | 95 | 110 | 116 | 121 | 81 | |
| VF73 | 30/11/16 | 26 | 166 | 103 | F | 37.38 | 93 | 91 | 85 | 90 | 97 | 99 | 104 | 75 | |
| VM81 | 30/11/16 | 50 | 171 | 84 | M | 28.73 | 91 | 95 | 84 | 98 | 110 | 126 | 121 | 79 | |
| VM100 | 01/12/16 | 45 | 180 | 85 | M | 26.23 | 118 | 104 | 71 | 73 | 78 | | 79 | | |
| VM60 | 01/12/16 | 51 | 170 | 106 | M | 36.68 | 106 | 103 | 78 | 81 | 94 | 101 | 109 | 68 | |
| GM22 | 01/12/16 | 45 | 179 | 63 | M | 19.66 | 106 | 103 | 79 | 90 | 77 | 89 | 85 | 92 | |
| VM86 | 01/12/16 | 38 | 171 | 82 | M | 28.04 | 105 | 109 | 86 | 103 | 141 | 158 | 63 | 125 | |
| VF87 | 01/12/16 | 69 | 171 | 68 | F | 23.26 | 94 | 90 | 80 | 80 | 63 | 66 | 90 | 79 | |
| VF10 | 18/11/16 | 55 | 167 | 74 | F | 26.53 | 97 | 76 | 67 | 38 | 82 | 66 | 42 | 31 | |
| VF82 | 18/11/16 | 60 | 147 | 79 | F | 36.56 | 122 | 127 | 87 | 107 | 99 | 105 | 119 | 118 | |
| VM109 | 18/11/16 | 37 | 187 | 138 | M | 39.46 | 144 | 130 | 79 | 113 | 136 | 163 | 115 | 90 | |
| VM132 | 19/11/16 | 36 | 168 | 71 | M | 25.16 | 83 | 75 | 75 | 48 | 85 | | 56 | | |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VM107 | 19/11/16 | 50 | 162 | 88 | M | 33.53 | 89 | 91 | 84 | 82 | 84 | 91 | 90 | 90 |
| VF2 | 19/11/16 | 66 | 148 | 60 | F | 27.39 | 117 | 132 | 93 | 132 | 83 | 78 | 133 | 190 |
| VM139 | 20/11/16 | 23 | 174 | 63 | M | 20.81 | 81 | 89 | 93 | 99 | 96 | 110 | 103 | 124 |
| VM148 | 20/11/16 | 46 | 164 | 61 | M | 22.68 | 104 | 100 | 80 | 83 | 109 | 126 | 100 | 61 |
| VM113 | 20/11/16 | 34 | 175 | 82 | M | 26.78 | 119 | 108 | 76 | 79 | 122 | 116 | 87 | 63 |
| VM94 | 20/11/16 | 37 | 174 | 86 | M | 28.41 | 107 | 117 | 90 | 132 | 97 | 112 | 139 | 157 |
| VF70 | 20/11/16 | 52 | 144 | 48 | F | 23.15 | 137 | 130 | 79 | 76 | 96 | 101 | 102 | 62 |
| VM138 | 20/11/16 | 28 | 170 | 63 | M | 21.80 | 106 | 108 | 86 | 100 | 118 | 128 | 98 | 118 |
| VM114 | 20/11/16 | 23 | 183 | 70 | M | 20.90 | 101 | 99 | 82 | 87 | 105 | 102 | 91 | 84 |
| VF128 | 21/11/16 | 57 | 159 | 99 | F | 39.16 | 89 | 103 | 98 | 118 | 65 | 46 | 102 | 237 |
| GF1 | 21/11/16 | 38 | 157 | 65 | F | 26.37 | 125 | 121 | 83 | 99 | 113 | 111 | 120 | 86 |
| GM66 | 21/11/16 | 31 | 171 | 76 | M | 25.99 | 115 | 114 | 83 | 118 | 98 | 113 | 156 | 90 |
| GF33 | 21/11/16 | 64 | 157 | 78 | F | 31.64 | 89 | 92 | 87 | 77 | 70 | 73 | 77 | 89 |
| VM18 | 22/11/16 | 37 | 168 | 98 | M | 34.72 | 105 | 110 | 88 | 106 | 93 | 84 | 107 | 129 |
| VM112 | 22/11/16 | 31 | 188 | 85 | M | 24.05 | 118 | 114 | 97 | 99 | 105 | 114 | 103 | 87 |
| GM30 | 22/11/16 | 72 | 170 | 82 | M | 28.37 | 69 | 62 | 68 | 35 | 63 | 52 | 36 | 46 |
| GM3 | 22/11/16 | 62 | 169 | 60 | M | 21.01 | 105 | 106 | 79 | 96 | 77 | 86 | 123 | 67 |
| GF14 | 22/11/16 | 15 | 169 | 68 | F | 23.81 | 112 | 107 | 83 | 95 | 105 | 119 | 103 | 88 |
| VM26 | 22/11/16 | 51 | 161 | 86 | M | 33.18 | 86 | 60 | 57 | 22 | 87 | 45 | 22 | 25 |
| VF32 | 22/11/16 | 48 | 156 | 88 | F | 36.16 | 96 | 94 | 84 | 76 | 112 | 110 | 108 | 63 |
| VF52 | 22/11/16 | 28 | 155 | 45 | F | 18.73 | 113 | 113 | 87 | 105 | 102 | 111 | 131 | 96 |
| VF51 | 22/11/16 | 24 | 157 | 55 | F | 22.31 | 117 | 113 | 85 | 97 | 84 | 83 | 108 | 93 |
| VM68 | 22/11/16 | 22 | 169 | 73 | M | 25.56 | 94 | 104 | 94 | 117 | 90 | 106 | 126 | 148 |
| VF150 | 23/11/16 | 35 | 156 | 64 | F | 26.30 | 111 | 117 | 90 | 138 | 102 | 114 | 141 | 177 |
| VM37 | 23/11/16 | 41 | 182 | 96 | M | 28.98 | 83 | 89 | 88 | 136 | 121 | 132 | 171 | 109 |
| VM130 | 23/11/16 | 32 | 170 | 92 | M | 31.83 | 85 | 92 | 91 | 132 | 89 | 103 | 147 | 147 |
| VM31 | 23/11/16 | 38 | 178 | 81 | M | 25.56 | 106 | 112 | 88 | 133 | 100 | 108 | 154 | 129 |

*Legend – IND_COD: individual code; BMI: Body Mass Index; FVC: Forced Vital Capacity; $FEV_1$: Forced Expiratory Volume in one second; FEV25-75%: Forced Expiratory Volume from 25% to 75% of vital capacity; PEF: Peak Expiratory Flow; FEF25%: Forced Expiratory Flow at 25% of vital capacity; FEF50%: Forced Expiratory Flow at 50% of vital capacity; FEF75%: Forced Expiratory Flow at 75% of vital capacity.*

# Descriptive analysis Vs outcome

**Table S11:** Results of the descriptive analysis risk factors versus outcome.

| | | Cough (not due to a common cold) for some periods of the year | | | | | | | Cough (not due to a common cold) for some periods of the year and for at least 2 years | | | | | | | Cough and sputum (not due to a common cold) for some period of the year and for at least 2 years | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NO | | YES | | TOTAL | | | NO | | YES | | TOTAL | | | NO | | YES | | TOTAL | | |
| | | N | % or mean | N | % or mean | N | % or mean | p | N | % or mean | N | % or mean | N | % or mean | p | N | % or mean | N | % or mean | N | % or mean | p |
| Sex | M=0 | 90 | 57.69 | 14 | 40.00 | 104 | 54.45 | | 94 | 55.62 | 10 | 45.45 | 104 | 54.45 | | 102 | 55.74 | 2 | 28.57 | 104 | 54.74 | |
| | F=1 | 66 | 42.31 | 21 | 60.00 | 87 | 45.55 | | 75 | 45.45 | 12 | 54.55 | 87 | 45.55 | | 81 | 44.26 | 5 | 71.43 | 86 | 45.26 | |
| | Total | 156 | 100.00 | 35 | 100.00 | 191 | 100 | 0.063 | 169 | 101.07 | 22 | 100.00 | 191 | 100.00 | 0.375 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 0.248 |
| Age | | 156 | 45.38±2.48 | 35 | 49.68±3.97 | 191 | 46.17±2.15 | 0.127 | 169 | 45.24±2.34 | 22 | 53.32±4.53 | 191 | 46.17±2.15 | 0.018 | 183 | 45.81±2.22 | 7 | 53.57±7.12 | 190 | 46.17±2.15 | 0.183 |
| Body Mass Index | | 156 | 27.82±0.76 | 35 | 30.08±1.85 | 191 | 28.23±0.71 | 0.015 | 169 | 27.97±0.75 | 22 | 30.26±2.25 | 191 | 28.23±0.71 | 0.043 | 183 | 28.11±0.72 | 7 | 30.74±4.93 | 190 | 28.21±0.72 | 0.172 |
| Smoke | NO=1 | 78 | 50.32 | 24 | 68.57 | 102 | 53.68 | | 88 | 52.38 | 14 | 63.64 | 102 | 53.68 | | 96 | 52.75 | 5 | 71.43 | 101 | 53.44 | |
| | EX=2 | 31 | 20.00 | 3 | 8.57 | 34 | 17.89 | | 33 | 19.64 | 1 | 4.54 | 34 | 17.90 | | 34 | 18.68 | 0 | 0.00 | 34 | 17.99 | |
| | YES=3 | 46 | 29.68 | 8 | 22.86 | 54 | 28.42 | | 47 | 27.98 | 7 | 31.82 | 54 | 28.42 | | 52 | 28.57 | 2 | 28.57 | 54 | 28.57 | |
| | Total | 155 | 100.00 | 35 | 100.00 | 190 | 100 | 0.131 | 168 | 100.00 | 22 | 100.00 | 190 | 100.00 | 0.241 | | 100.00 | | 100.00 | 189 | 100.00 | 0.514 |
| Pack-years | | 153 | 9.15±2.72 | 34 | 9.53±6.13 | 187 | 9.22±2.46 | 0.905 | 165 | 8.69±2.60 | 22 | 13.2±8.85 | 187 | 9.22±2.46 | 0.245 | 179 | 9.28±2.54 | 7 | 8.93±14.11 | 186 | 9.27±2.47 | 0.958 |
| Metabolic comorbidity | NO=0 | 113 | 72.44 | 25 | 71.43 | 138 | 72.25 | | 125 | 73.96 | 13 | 59.09 | 138 | 72.25 | | 132 | 72.13 | 5 | 71.43 | 137 | 72.11 | |
| | YES=1 | 43 | 27.56 | 10 | 28.57 | 53 | 27.75 | | 44 | 26.04 | 9 | 40.91 | 53 | 27.75 | | 51 | 27.87 | 2 | 28.57 | 53 | 27.89 | |
| | Total | 156 | 100.00 | 35 | 100 | 191 | 100 | 0.925 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.234 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 1.000 |
| Cardiovascular comorbidity | NO=0 | 107 | 68.59 | 19 | 54.29 | 126.2 | 65.97 | | 115 | 68.05 | 11 | 50.00 | 126 | 65.97 | | 121 | 66.12 | 4 | 57.14 | 125 | 65.79 | |
| | YES=1 | 49 | 31.41 | 16 | 45.71 | 65 | 34.03 | | 54 | 31.95 | 11 | 50.00 | 65 | 34.03 | | 62 | 33.88 | 3 | 42.86 | 65 | 34.21 | |
| | Total | 156 | 100.00 | 35.2 | 100.00 | 191.2 | 100.00 | 0.176 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.181 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 0.711 |
| Respiratory symptoms in childhood | NO=0 | 125 | 80.13 | 24 | 68.57 | 149 | 78.01 | | 134 | 79.29 | 15 | 68.18 | 149 | 78.01 | | 144 | 78.69 | 4 | 57.14 | 148 | 77.89 | |
| | YES=1 | 31 | 19.87 | 11 | 31.43 | 42 | 21.99 | | 35 | 20.71 | 7 | 31.82 | 42 | 21.99 | | 39 | 21.31 | 3 | 42.86 | 42 | 22.11 | |
| | Total | 156 | 100 | 35 | 100 | 191 | 100 | 0.174 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.274 | | | | | 190 | | 0.183 |
| Family history of respiratory diseases | NO=0 | 123 | 78.85 | 19 | 54.29 | 142 | 74.35 | | 131 | 77.51 | 11 | 50.00 | 142 | 74.35 | | 138 | 75.41 | 4 | 57.14 | 142 | 74.74 | |
| | YES=1 | 33 | 21.15 | 16 | 45.71 | 49 | 25.65 | | 38 | 22.49 | 11 | 50.00 | 49 | 25.65 | | 45 | 24.59 | 3 | 42.86 | 48 | 25.26 | |
| | Total | 156 | 100 | 35 | 100 | 191 | 100 | 0.005 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.009 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 0.372 |
| Wood heating | NO=0 | 78 | 50.32 | 12 | 35.29 | 90 | 47.62 | | 81 | 48.50 | 9 | 40.91 | 90 | 47.62 | | 88 | 48.62 | 2 | 28.57 | 90 | 47.87 | |
| | YES=1 | 77 | 49.68 | 22 | 64.71 | 99 | 52.38 | | 86 | 51.50 | 13 | 59.09 | 99 | 52.38 | | 93 | 51.38 | 5 | 71.43 | 98 | 52.13 | |
| | Total | 155 | 100.00 | 34 | 100.00 | 189 | 100 | 0.131 | 167 | 100.00 | 22 | 100.00 | 189 | 100.00 | 0.651 | 181 | 100.00 | 7 | 100.00 | 188 | 100.00 | 0.447 |
| Employed | NO=0 | 69 | 44.23 | 15 | 42.86 | 84 | 43.98 | | 75 | 44.38 | 9 | 40.91 | 84 | 43.98 | | 80 | 43.72 | 4 | 57.14 | 84 | 44.21 | |
| | YES=1 | 87 | 55.77 | 20 | 57.14 | 107 | 56.02 | | 94 | 55.62 | 13 | 59.09 | 107 | 56.02 | | 103 | 56.28 | 3 | 42.86 | 106 | 55.79 | |
| | Total | 156 | 100 | 35 | 100 | 191 | 100 | 1.000 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.822 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 0.702 |
| Occupational exposure | NO=0 | 92 | 58.97 | 22 | 62.86 | 114 | 59.69 | | 102 | 60.36 | 12 | 54.55 | 114 | 59.69 | | 111 | 60.66 | 2 | 28.57 | 113 | 59.47 | |
| | YES=1 | 64 | 41.03 | 13 | 37.14 | 77 | 40.31 | | 67 | 39.64 | 10 | 45.45 | 77 | 40.31 | | 72 | 39.34 | 5 | 71.43 | 77 | 40.53 | |
| | Total | 156 | 100.00 | 35 | 100.00 | 191 | 100.00 | 0.707 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.648 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 0.122 |
| Employed in industry | NO=0 | 127 | 81.41 | 30 | 85.71 | 157 | 82.20 | | 139 | 82.25 | 18 | 81.82 | 157 | 82.20 | | 150 | 81.97 | 6 | 85.71 | 156 | 82.11 | |
| | YES=1 | 29 | 18.59 | 5 | 14.29 | 34 | 17.80 | | 30 | 17.75 | 4 | 18.18 | 34 | 17.80 | | 33 | 18.03 | 1 | 14.29 | 34 | 17.89 | |
| | Total | 156 | 100.00 | 35 | 100.00 | 191 | 100.00 | 0.633 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 1.000 | 183 | 100.00 | 7 | 100.00 | 190 | 100.00 | 1.000 |
| Level of education | Primary (or lower) | 20 | 13.07 | 3 | 8.82 | 23 | 12.3 | | 21 | 12.73 | 2 | 9.09 | 23 | 12.3 | | 19 | 12.03 | 4 | 13.79 | 23 | 12.3 | |
| | Secondary (or higher) | 133 | 86.93 | 31 | 91.18 | 164 | 87.8 | | 144 | 87.27 | 20 | 90.91 | 164 | 87.70 | | 139 | 87.97 | 25 | 86.21 | 164 | 87.70 | |
| | Total | 153 | 100.00 | | 100.00 | 187 | 100.10 | 0.495 | 165 | 100.00 | 22 | 100.00 | 187 | 100.00 | 0.626 | 158 | 100.00 | 29 | 100.00 | 187 | 100.00 | 0.790 |
| Distance from the main road running through the valley | > 500 m | 129 | 82.69 | 25 | 71.43 | 154 | 80.63 | | 139 | 82.25 | 15 | 68.18 | 154 | 80.63 | | 134 | 82.72 | 20 | 68.97 | 154 | 80.63 | |
| | < 500 m | 27 | 17.31 | 10 | 28.57 | 37 | 19.37 | | 30 | 17.75 | 7 | 31.82 | 37 | 19.37 | | 28 | 17.28 | 9 | 31.03 | 37 | 19.37 | |
| | Total | 156 | 100.00 | | 100.00 | 191 | 100.00 | 0.128 | 169 | 100.00 | 22 | 100.00 | 191 | 100.00 | 0.116 | 162 | 100.00 | 29 | 100.00 | 191 | 100.00 | 0.084 |

| | | High-grade dyspnoea (has to stop to take a breath at normal gait on the level | | | | | | | Chronic bronchitis | | | | | | | Bronchial asthma or asthmatic bronchitis | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NO | | YES | | TOTAL | | | NO | | YES | | TOTAL | | | NO | | YES | | TOTAL | | |
| | | N | % (or mean) | N | % (or mean) | N | % (or mean) | p | N | % (or mean) | N | % (or mean) | N | % (or mean) | p | N | % (or mean) | N | % (or mean) | N | % (or mean) | p |
| **Sex** | **M=0** | 98 | 56.00 | 6 | 37.50 | 104 | 54.45 | | 95 | 52.78 | 9 | 81.82 | 104 | 54.45 | | 94 | 54.34 | 10 | 55.56 | 104 | 54.45 | |
| | **F=1** | 77 | 44.00 | 10 | 62.50 | 87 | 45.55 | | 85 | 47.22 | 2 | 18.18 | 87 | 45.55 | | 79 | 45.66 | 8 | 44.44 | 87 | 45.55 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100 | 0.193 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.069 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 1.000 |
| **Age** | | 175 | 45.27±2.27 | 16 | 55.94±4.88 | 191 | 46.17±2.15 | 0.007 | 180 | 45.62±2.21 | 11 | 55.09±9.01 | 191 | 46.17±2.15 | 0.043 | 173 | 46.39±2.28 | 18 | 44.00±6.81 | 191 | 46.17±2.15 | 0.523 |
| **Body Mass Index** | | 175 | 27.96±0.73 | 16 | 31.18±2.92 | 191 | 28.23±0.71 | 0.013 | 180 | 28.10±0.73 | 11 | 30.48±3.77 | 191 | 28.23±0.71 | 0.125 | 173 | 27.94±0.71 | 18 | 31.08±3.22 | 191 | 28.23±0.71 | 0.011 |
| **Smoke** | **NO=1** | 92 | 52.87 | 10 | 62.50 | 102 | 53.68 | | 98 | 54.75 | 4 | 36.36 | 102 | 53.68 | | 92 | 53.49 | 10 | 55.55 | 102 | 53.68 | |
| | **EX=2** | 31 | 17.82 | 3 | 18.75 | 34 | 17.90 | | 31 | 17.32 | 3 | 27.28 | 34 | 17.89 | | 31 | 18.02 | 3 | 16.67 | 34 | 17.90 | |
| | **YES=3** | 51 | 29.31 | 3 | 18.75 | 54 | 28.42 | | 50 | 27.93 | 4 | 36.36 | 54 | 28.42 | | 49 | 28.49 | 5 | 27.78 | 54 | 28.42 | |
| | **Total** | 174 | 100.00 | 16 | 100.00 | 190 | 100.00 | 0.684 | 179 | 100.00 | 11 | 100.00 | 190 | 100 | 0.439 | 172 | 100.00 | 18 | 100.00 | 190 | 100.00 | 1.000 |
| **Pack-years** | | 172 | 8.86±2.38 | 15 | 13.35±15.54 | 187 | 9.22±2.46 | 0.330 | 176 | 8.16±2.25 | 11 | 26.18±22.09 | 187 | 9.22±2.46 | 0.001 | 170 | 9.26±2.63 | 17 | 8.74±7.28 | 187 | 9.22±2.46 | 0.904 |
| **Metabolic comorbidity** | **NO=0** | 128 | 73.14 | 10 | 62.50 | 138 | 72.25 | | 134 | 74.44 | 4 | 36.36 | 138 | 72.25 | | 126 | 72.83 | 12 | 66.67 | 138 | 72.25 | |
| | **YES=1** | 47 | 26.86 | 6 | 37.50 | 53 | 27.75 | | 46 | 25.56 | 7 | 63.64 | 53 | 27.75 | | 47 | 27.17 | 6 | 33.33 | 53 | 27.75 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.558 | 180 | 100.00 | 11 | 100.00 | 191 | 100 | 0.028 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.713 |
| **Cardiovascular comorbidity** | **NO=0** | 119 | 68.00 | 7 | 43.75 | 126 | 65.97 | | 122 | 67.78 | 4 | 36.36 | 126 | 65.97 | | 115 | 66.47 | 11 | 61.11 | 126 | 65.97 | |
| | **YES=1** | 56 | 32.00 | 9 | 56.25 | 65 | 34.03 | | 58 | 32.22 | 7 | 63.64 | 65 | 34.03 | | 58 | 33.53 | 7 | 38.89 | 65 | 34.03 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.112 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.097 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.677 |
| **Respiratory symptoms in childhood** | **NO=0** | 135 | 77.14 | 14 | 87.50 | 149 | 78.01 | | 144 | 80.00 | 5 | 45.45 | 149 | 78.01 | | 137 | 79.19 | 12 | 66.67 | 149 | 78.01 | |
| | **YES=1** | 40 | 22.86 | 2 | 12.50 | 42 | 21.99 | | 36 | 20.00 | 6 | 54.55 | 42 | 21.99 | | 36 | 20.81 | 6 | 33.33 | 42 | 21.99 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.530 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.016 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.236 |
| **Family history of respiratory diseases** | **NO=0** | 131 | 74.86 | 11 | 68.75 | 142 | 74.35 | | 136 | 75.56 | 6 | 54.55 | 142 | 74.35 | | 131 | 75.72 | 11 | 61.11 | 142 | 74.35 | |
| | **YES=1** | 44 | 25.14 | 5 | 31.25 | 49 | 25.65 | | 44 | 24.44 | 5 | 45.45 | 49 | 25.65 | | 42 | 24.28 | 7 | 38.89 | 49 | 25.65 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.561 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.153 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.254 |
| **Wood heating** | **NO=0** | 86 | 49.71 | 4 | 25.00 | 90 | 47.62 | | 85 | 47.75 | 5 | 45.45 | 90 | 47.62 | | 81 | 47.37 | 9 | 50.00 | 90 | 47.62 | |
| | **YES=1** | 87 | 50.29 | 12 | 75.00 | 99 | 52.38 | | 93 | 52.25 | 6 | 54.55 | 99 | 52.38 | | 90 | 52.63 | 9 | 50.00 | 99 | 52.38 | |
| | **Total** | 173 | 100.00 | 16 | 100.00 | 189 | 100.00 | 0.070 | 178 | 100.00 | 11 | 100.00 | 189 | 100.00 | 1.000 | 171 | 100.00 | 18 | 100.00 | 189 | 100.00 | 1.000 |
| **Employed** | **NO=0** | 80 | 45.71 | 4 | 25.00 | 84 | 43.98 | | 79 | 43.89 | 5 | 45.45 | 84 | 43.98 | | 77 | 44.51 | 7 | 38.89 | 84 | 43.98 | |
| | **YES=1** | 95 | 54.29 | 12 | 75.00 | 107 | 56.02 | | 101 | 56.11 | 6 | 54.55 | 107 | 56.02 | | 96 | 55.49 | 11 | 61.11 | 107 | 56.02 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.123 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 1.000 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.804 |
| **Occupational exposure** | **NO=0** | 106 | 60.57 | 8 | 50.00 | 114 | 59.69 | | 108 | 60.00 | 6 | 54.55 | 114 | 59.69 | | 107 | 61.85 | 7 | 38.89 | 114 | 59.69 | |
| | **YES=1** | 69 | 39.43 | 8 | 50.00 | 77 | 40.31 | | 72 | 40.00 | 5 | 45.45 | 77 | 40.31 | | 66 | 38.15 | 11 | 61.11 | 77 | 40.31 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.435 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.758 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.077 |
| **Employed in industry** | **NO=0** | 146 | 83.43 | 11 | 68.75 | 157 | 82.20 | | 147 | 81.67 | 10 | 90.91 | 157 | 82.20 | | 143 | 82.66 | 14 | 77.78 | 157 | 82.20 | |
| | **YES=1** | 29 | 16.57 | 5 | 31.25 | 34 | 17.80 | | 33 | 18.33 | 1 | 9.09 | 34 | 17.80 | | 30 | 17.34 | 4 | 22.22 | 34 | 17.80 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.169 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.692 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.533 |
| **Level of education** | **Primary (or lower)** | 20 | 11.63 | 3 | 20 | 23 | 12.3 | | 20 | 11.36 | 3 | 27.27 | 23 | 12.3 | | 21 | 12.43 | 2 | 11.11 | 23 | 12.3 | |
| | **Secondary (or higher)** | 152 | 88.37 | 12 | 80 | 164 | 87.70 | | 156 | 88.64 | 8 | 72.73 | 164 | 87.70 | | 148 | 87.57 | 16 | 88.89 | 164 | 87.80 | |
| | **Total** | 172 | 100.00 | 15 | 100.00 | 187 | 100.00 | 0.344 | 176 | 100.00 | 11 | 100.00 | 187 | 100.00 | 0.119 | 169 | 100.00 | 18 | 100.00 | 187 | 100.10 | 0.872 |
| **Distance from the main road running through the valley** | **> 500 m** | 144 | 82.29 | 10 | 62.5 | 154 | 80.63 | | 145 | 80.56 | 9 | 81.82 | 154 | 80.63 | | 140 | 80.92 | 14 | 77.78 | 154 | 80.63 | |
| | **< 500 m** | 31 | 17.71 | 6 | 37.5 | 37 | 19.37 | | 35 | 19.44 | 2 | 18.18 | 37 | 19.37 | | 33 | 19.08 | 4 | 22.22 | 37 | 19.37 | |
| | **Total** | 175 | 100.00 | 16 | 100.00 | 191 | 100.00 | 0.055 | 180 | 100.00 | 11 | 100.00 | 191 | 100.00 | 0.918 | 173 | 100.00 | 18 | 100.00 | 191 | 100.00 | 0.748 |

| | | Respiratory allergic symptoms | | | | | | | Respiratory allergic symptoms associated with eye symptoms | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NO | | YES | | TOTAL | | | NO | | YES | | TOTAL | | |
| | | N | % (or mean) | N | % (or mean) | N | % (or mean) | p | N | % (or mean) | N | % (or mean) | N | % (or mean) | p |
| **Sex** | **M=0** | 75 | 55.97 | 29 | 50.88 | 104 | 54.45 | | 66 | 57.39 | 38 | 50.00 | 104 | 54.45 | |
| | **F=1** | 59 | 44.03 | 28 | 49.12 | 87 | 45.55 | | 49 | 42.61 | 38 | 50.00 | 87 | 45.55 | |
| | **Total** | 134 | 100.00 | 57 | 100.00 | 191 | 100.00 | 0.530 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.374 |
| **Age** | | 134 | 47.21±2.70 | 57 | 43.72±3.44 | 191 | 46.17±2.15 | 0.144 | 115 | 46.43±2.88 | 76 | 45.76±3.27 | 191 | 46.17±2.15 | 0.764 |
| **Body Mass Index** | | 134 | 27.86±0.82 | 57 | 29.10±1.42 | 191 | 28.23±0.71 | 0.118 | 115 | 27.64±0.88 | 76 | 29.14±1.19 | 191 | 28.23±0.71 | 0.042 |
| **Smoke** | **NO=1** | 67 | 50.38 | 35 | 61.40 | 102 | 53.68 | | 56 | 49.12 | 46 | 60.53 | 102 | 53.68 | |
| | **EX=2** | 26 | 19.55 | 8 | 14.04 | 34 | 17.90 | | 24 | 21.06 | 10 | 13.15 | 34 | 17.90 | |
| | **YES=3** | 40 | 30.08 | 14 | 24.56 | 54 | 28.42 | | 34 | 29.82 | 20 | 26.32 | 54 | 28.42 | |
| | **Total** | 133 | 100.01 | 57 | 100.00 | 190 | 100.00 | 0.404 | 114 | 100.00 | 76 | 100.00 | 190 | 100.00 | 0.255 |
| **Pack-years** | | | | | | | | | 112 | 10.28±3.48 | 75 | 7.64±3.33 | 187 | 9.22±2.46 | 0.302 |
| **Metabolic comorbidity** | **NO=0** | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | **YES=1** | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | **Total** | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| **Cardiovascular comorbidity** | **NO=0** | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | **YES=1** | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| | **Total** | - | - | - | - | - | - | - | - | - | - | - | - | - | |
| **Respiratory symptoms in childhood** | **NO=0** | 111 | 82.84 | 38 | 66.67 | 149 | 78.01 | | 98 | 85.22 | 51 | 67.11 | 149 | 78.01 | |
| | **YES=1** | 23 | 17.16 | 19 | 33.33 | 42 | 21.99 | | 17 | 14.78 | 25 | 32.89 | 42 | 21.99 | |
| | **Total** | 134 | 100.00 | 57 | 100.00 | 191 | 100.00 | 0.021 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.004 |
| **Family history of respiratory diseases** | **NO=0** | 106 | 79.10 | 36 | 63.16 | 142 | 74.35 | | 92 | 80.00 | 50 | 65.79 | 142 | 74.35 | |
| | **YES=1** | 28 | 20.90 | 21 | 36.84 | 49 | 25.65 | | 23 | 20.00 | 26 | 34.21 | 49 | 25.65 | |
| | **Total** | 134 | 100.00 | 57 | 100.00 | 191 | 100.00 | 0.029 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.042 |
| **Wood heating** | **NO=0** | 62 | 46.97 | 28 | 49.12 | 90 | 47.62 | | 54 | 47.79 | 36 | 47.37 | 90 | 47.62 | |
| | **YES=1** | 70 | 53.03 | 29 | 50.88 | 99 | 52.38 | | 59 | 52.21 | 40 | 52.63 | 99 | 52.38 | |
| | **Total** | 132 | 100.00 | 57 | 100.00 | 189 | 100.00 | 0.874 | 113 | 100.00 | 76 | 100.00 | 189 | 100.00 | 1.000 |
| **Employed** | **NO=0** | 64 | 47.76 | 20 | 35.09 | 84 | 43.98 | | 53 | 46.09 | 31 | 40.79 | 84 | 43.98 | |
| | **YES=1** | 70 | 52.24 | 37 | 64.91 | 107 | 56.02 | | 62 | 53.91 | 45 | 59.21 | 107 | 56.02 | |
| | **Total** | 134 | 100.00 | 57 | 100.00 | 191 | 100.00 | 0.114 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.552 |
| **Occupational exposure** | **NO=0** | 84 | 62.29 | 30 | 52.63 | 114 | 59.69 | | 72 | 62.61 | 42 | 55.26 | 114 | 59.69 | |
| | **YES=1** | 50 | 37.31 | 27 | 47.37 | 77 | 40.31 | | 43 | 37.39 | 34 | 44.74 | 77 | 40.31 | |
| | **Total** | 134 | 99.60 | 57 | 100.00 | 191 | 100.00 | 0.202 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.366 |
| **Employed in industry** | **NO=0** | 112 | 83.58 | 45 | 78.95 | 157 | 82.20 | | 97 | 84.35 | 60 | 78.95 | 157 | 82.20 | |
| | **YES=1** | 22 | 16.42 | 12 | 21.05 | 34 | 17.80 | | 18 | 15.65 | 16 | 21.05 | 34 | 17.80 | |
| | **Total** | 134 | 100.00 | 57 | 100.00 | 191 | 100.00 | 0.535 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.342 |
| **Level of education** | **Primary (or lower)** | 19 | 14.5 | 4 | 7.14 | 23 | 12.3 | | 15 | 13.27 | 8 | 10.81 | 23 | 12.3 | |
| | **Secondary (or higher)** | 112 | 85.50 | 52 | 92.86 | 164 | 87.70 | | 98 | 86.73 | 66 | 89.19 | 164 | 87.70 | |
| | **Total** | 131 | 100.00 | 56 | 100.00 | 187 | 100.00 | 0.16 | 113 | 100.00 | 74 | 100.00 | 187 | 100.00 | 0.616 |
| **Distance from the main road running through the valley** | **> 500 m** | 107 | 79.85 | 47 | 82.46 | 154 | 80.63 | | 94 | 81.74 | 60 | 78.95 | 154 | 80.63 | |
| | **< 500 m** | 27 | 20.15 | 10 | 17.54 | 37 | 19.37 | | 21 | 18.26 | 16 | 21.05 | 37 | 19.37 | |
| | **Total** | 134 | 100.00 | 57 | 100.00 | 191 | 100.00 | 0.677 | 115 | 100.00 | 76 | 100.00 | 191 | 100.00 | 0.633 |

*Legend: M: Males; F: Females; N: Number.*