**Supplementary file 2.**

**Diagnostic test for the study model resulted from multivariable logistic regression of study key secondary outcome (whose waterpipe smoking cessation included cigarette smoking)**

**1) Hosmer-Lemeshow goodness of fit test:**

|  |  |
| --- | --- |
| **Number of observations** | 466 |
| **Number of groups** | 10 |
| **Hosmer-Lemeshow chi2(8)** | 10.59 |
| **Prob > chi2** | 0.2258 |

**2) Variance Inflation Factor (VIF):**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variable** | **VIF** | **SORT VIF** | **Tolerance** | **R-Squared** |
| Age | 2.95 | 1.72 | 0.3391 | 0.6609 |
| Gender | 1.24 | 1.12 | 0.8039 | 0.1961 |
| Marital status | 1.48 | 1.22 | 0.6739 | 0.3261 |
| Level of Education | 1.33 | 1.15 | 0.7501 | 0.2499 |
| Wealth index | 1.22 | 1.11 | 0.8170 | 0.1830 |
| Number of people living at home | 1.52 | 1.23 | 0.6565 | 0.3435 |
| Having children under 18 years of age | 1.07 | 1.04 | 0.9315 | 0.0685 |
| Smoking rules in the house | 1.12 | 1.06 | 0.8931 | 0.1069 |
| Comorbidity | 1.10 | 1.05 | 0.9129 | 0.0871 |
| Nicotine dependency LWDS\_11 scale | 1.29 | 1.14 | 0.7724 | 0.2276 |
| Withdrawal symptoms MPSS scale | 1.39 | 1.18 | 0.7204 | 0.2796 |
| Smoking duration | 2.43 | 1.56 | 0.4109 | 0.5891 |
| Age at starting smoking | 1.42 | 1.19 | 0.7034 | 0.2966 |
| Sharing waterpipe with others | 1.12 | 1.06 | 0.8943 | 0.1057 |
| Dual smoker status | 1.16 | 1.08 | 0.8649 | 0.1351 |
| Waterpipe session length | 1.07 | 1.03 | 0.9345 | 0.0655 |
| Smoking frequency | 1.26 | 1.12 | 0.7951 | 0.2049 |
| Past quit attempt | 1.24 | 1.11 | 0.8062 | 0.1938 |
| **Mean VIF** | **1.41** |  |  |  |

**3)** **Receiver Operating Characteristic (ROC) curve:**

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**4)** **Box-Tidwell procedure:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Coef.** | **Std. Err.** | **Z** | **P>z** | **95% CI** | | | |
| **I(Age)\_1** | | 0.0004174 | 0.0040558 | 0.1 | 0.918 | -0.0075319 | | 0.0083667 | |
| **I(Age)\_p1** | | -0.0000252 | 0.0018469 | -0.01 | 0.989 | -0.0036449 | | 0.0035946 | |
| **I(LWDS)\_1** | | -5.93E-18 | 2.44E-16 | -0.02 | 0.981 | -4.85E-16 | | 4.73E-16 | |
| **I(LWDS)\_p1** | | 5.79E-19 | 2.55E-16 | 0 | 0.998 | -4.99E-16 | | 5.00E-16 | |
| **I(MPSS)\_1** | | -0.9514805 | 1.130183 | -0.84 | 0.4 | -3.166599 | | 1.263638 | |
| **I(MPSS)\_p1** | | -0.0078029 | 3.869394 | 0 | 0.998 | -7.591676 | | 7.57607 | |
| **I(Waterpipe session length)\_1** | | -2.084889 | 3.407514 | -0.61 | 0.541 | -8.763493 | | 4.593715 | |
| **I(Waterpipe session length)\_p1** | | 0.0030079 | 2.458896 | 0 | 0.999 | -4.81634 | | 4.822356 | |
| **I(gender)\_1** | | -0.2384218 | 0.3975708 | -0.6 | 0.549 | -1.017646 | | 0.5408027 | |
| **I(Marital status)\_1** | | 0.1196009 | 0.27747 | 0.43 | 0.666 | -0.4242303 | | 0.6634322 | |
| **I(Level of education)\_1** | | -0.2968741 | 0.3219662 | -0.92 | 0.356 | -0.9279163 | | 0.334168 | |
| **I(Wealth index)\_1** | | 0.0747891 | 0.2916996 | 0.26 | 0.798 | -0.4969315 | | 0.6465097 | |
| **I(Number of people living at home)\_1** | | -0.0020917 | 0.3292538 | -0.01 | 0.995 | -0.6474173 | | 0.6432339 | |
| **I(Having children < 18 years)\_1** | | -0.1666634 | 0.2832076 | -0.59 | 0.556 | -0.7217401 | | 0.3884133 | |
| **I(Smoking rules in the house)\_1** | | 1.334004 | 0.4821987 | 2.77 | 0.006 | 0.3889124 | | 2.279096 | |
| **I(Comorbidity)\_1** | | -1.418598 | 0.8237816 | -1.72 | 0.085 | -3.03318 | | 0.1959842 | |
| **I(Smoking duration)\_1** | | -0.0948733 | 0.4308761 | -0.22 | 0.826 | -0.939375 | | 0.7496284 | |
| **I(Age at starting smoking)\_1** | | -0.1485682 | 0.31635 | -0.47 | 0.639 | -0.7686029 | | 0.4714665 | |
| **I(Sharing waterpipe with others)\_1** | | 0.5235312 | 0.3738583 | 1.4 | 0.161 | -0.2092176 | | 1.25628 | |
| **I(Dual smoker status)\_1** | | -0.0919937 | 0.2791658 | -0.33 | 0.742 | -0.6391486 | | 0.4551613 | |
| **I(Smoking frequency)\_1** | | 0.3523161 | 0.350237 | 1.01 | 0.314 | -0.3341358 | | 1.038768 | |
| **I(Past quit attempt)\_1** | | 1.125791 | 0.3206422 | 3.51 | 0 | 0.4973435 | | 1.754238 | |
| **\_cons** | | -1.477984 | 0.6261987 | -2.36 | 0.018 | -2.705311 | | -0.2506571 | |
| **Age** | | 0.016 | 0.014 | 1.084 | Nonlin.dev. | | 1.152 | | (P: 0.283) |
| **p1** | | 3.776 | 5.044 | 0.749 |  | |  | |  |
| **LWDS\_11** | | -0.116 | 0.037 | -3.131 | Nonlin.dev. | | 2.988 | | (P: 0.084) |
| **p1** | | 42.013 | 67.608 | 0.621 |  | |  | |  |
| **MPSS** | | 0.044 | 0.029 | 1.500 | Nonlin.dev. | | 0.666 | | (P: 0.414) |
| **p1** | | -1.730 | 4.151 | -0.417 |  | |  | |  |
| **Waterpipe session length** | | -0.175 | 0.018 | -0.973 | Nonlin.dev. | | 0.453 | | (P: 0.501) |
| **p1** | | 0.302 | 1.196 | 0.253 |  | |  | |  |
|  | | | |  | |  | |  |