

Predictors of treatment success in smoking cessation with varenicline combined with nicotine replacement therapy v. varenicline alone.

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Background: Identification of the predictors of treatment success in smoking cessation may help healthcare workers to improve the effectiveness of attempts at quitting.

Objective: To identify the predictors of success in a randomised controlled trial comparing varenicline alone or in combination with nicotine replacement therapy (NRT).

Methods: A post-hoc analysis of the data of 435 subjects who participated in a 24-week, multicentre trial in South Africa was performed. Logistic regression was used to analyse the effect of age, sex, age at smoking initiation, daily cigarette consumption, nicotine dependence, and reinforcement assessment on abstinence rates at 12 and 24 weeks. Point prevalence and continuous abstinence rates were self-reported and confirmed biochemically with exhaled carbon monoxide readings.

Results: The significant predictors of continuous abstinence at 12 and 24 weeks on multivariate analysis were lower daily cigarette consumption (odds ratio (OR) 1.86, 95% confidence interval (CI) 1.21 - 2.87, $p=0.005$ and OR 1.83, 95% CI 1.12 - 2.98, $p=0.02$, respectively) and older age (OR 1.52, 95% CI 1.00 - 2.31, $p=0.049$ and OR 1.79, 95% CI 1.13 - 2.84, $p=0.01$, respectively). There was no difference in the predictors of success in the univariate analysis, except that older age predicted point prevalence abstinence at 12 weeks (OR 1.47, 95% CI 1.00 - 2.15, $p=0.049$). The findings were inconclusive for an association between abstinence and lower nicotine dependence, older age at smoking initiation and positive reinforcement.

Conclusion: Older age and lower daily cigarette consumption are associated with a higher likelihood of abstinence in patients using varenicline, regardless of the addition of NRT.

