

Respiragene™ Research Update - Mar 2010

Impact of Respiragene™ on Smokers' Behavior and Attitudes – six months post Respiragene™ test

In June-October 2009, a pilot survey was conducted among 43 smokers in two phases (Phase 1, n = 25, Phase 2, n = 18) in Auckland, New Zealand, to assess the impact of taking the Respiragene genetic-based test for lung cancer susceptibility on attitudes and behavior associated with quitting smoking.

The November 2009 Research Update provided the results from the two week post test interview. This paper summarizes the results for the 25 Phase 1 participants at the six month post-testing follow up¹.

Summary

This survey confirmed the key findings of the initial two week post-test survey, which are reproduced below. In addition, this survey provides a longer-term picture of quitting actions and intentions as a result of taking the Respiragene test, together with the cessation methods used.

Key findings from the two week post-test survey: (Source: Research Update Nov 2009):

- a favorable reaction by smokers to the test and strong interest in taking the test
- test takers took increased and deliberate steps to try to quit
- test takers' intention to quit strengthened
- no de-motivating effects of taking the test were identified
- no harmful or counter-productive levels of anxiety were created
- test results were more motivating for higher risk individuals, but moderate risk individuals were also prompted to act.

The six month post-test survey has shown that 80% of participants made some attempt to stop smoking during this period, abstaining from smoking for at least one day. This is a very significant increase on the 8% making a quit attempt in the period before taking the test. Many of these quit attempts have resulted in sustained periods of abstinence. At the six months point, 32% were not smoking. Of these, the large majority had abstained for more than two months.

¹ During the six months period, one smoker had died. Results have been reported on the "intention to treat" basis i.e. for all 25 people participating at the beginning of the trial.

Methodology

In this pilot study, smokers randomly identified through hospital discharge records within the preceding 12 month period were contacted. Respondents were eligible if they were current smokers aged 40-75. The smokers participating in the survey were not engaged in any formal smoking cessation activities in the period before the survey and were not necessarily motivated to quit smoking. This approach is different from most smoking cessation trials where participants are part of some kind of cessation program and so by definition are already motivated to stop smoking.

Of the smokers contacted for the study, 90% of those offered the Respiragene test took up the opportunity to undertake testing and participate in the study.

A baseline telephone survey pre-test was conducted to determine their attitudes and intentions towards quitting smoking. The smoker was given pre-test counselling about the Respiragene test and a DNA sample was collected by mouth swab. Participants were invited back to the clinic to receive their test results. At this visit they were given written material on smoking cessation services and a card that would allow them to purchase subsidized nicotine patches or gum from a pharmacy, should they wish to avail themselves of these therapies.

Post-test telephone interviews were conducted at two weeks (see Research Update – Nov 09) and six months after smokers were given their Respiragene test. It is important to note that the participants in the trial were not told that there would be any follow-up after the two week post-test interview, thus closely replicating a real world scenario.

The Respiragene test defines smokers as at “Moderate” (an average smokers’ risk), “High” (four times average) and “Very high” (ten times average) risk. For the phase 1 subjects (n=25 smokers), 15 were moderate risk, 5 were high risk and 5 were very high risk.

Key Findings

1. Continuing favorable reaction to the Respiragene test.

The interest in, and positive reaction to the Respiragene test did not diminish during the six months following the test.

In line with the two week post test results, at the six month point 91% reported that the test helped motivate them to attempt to quit smoking.

2. The Respiragene test is a strong motivator for taking action to try to stop smoking.

Respiragene motivates smokers to make more quit attempts and results in higher quit success rates.

Before taking Respiragene, 8% had abstained from smoking for more than one day in the preceding six weeks. During the six month post-test period, 80% had abstained from smoking for at least one day. Nearly a third (32%) were not smoking at the six month point and 28% had not smoked for at least two months.

3. Increased intention to quit after taking the Respiragene test.

At the two week interview, over 91% of participants said they intended to quit within one year, compared with 56% pre-testing. There is almost no dilution of resolve over time.

At the six month point the large majority of smokers (88%) had either stopped smoking already or intended to quit within one year.

4. Correlation between Respiragene risk level and quitting actions

There is no evidence of a de-motivating effect among smokers with Moderate Respiragene scores. Respiragene motivated efforts to stop smoking across the board.

The correlation between a higher Respiragene risk score and greater efforts to stop smoking observed in the immediate post-test period had diminished after six months. This survey found comparable rates for quitting actions and quitting success in both the Moderate and High/Very high risk groups (30% vs 33%). The Moderate risk category approximates that of the average smoker's lifetime risk of lung cancer, which is estimated to be 10-15%.

5. Cessation methods of quitters

The majority of quitting actions were “cold turkey”, which is consistent with the scientific literature on cessation methods. However, those who had been successful in abstaining from smoking for an extended period were more likely to have had assistance from nicotine replacement products or other medications.

Of the 80% who took quitting actions during the six month period, 60% did it “cold turkey” i.e. did not use nicotine replacement products or enrol in a cessation program. The 40% who were assisted in some way all used nicotine replacement therapies and three-quarters of these had GP assistance and/or prescription-only medications such as Bupropion and/or Varenline.

Of the 32% who were not smoking at the six month point, one quarter had quit “cold turkey”, the others had used nicotine replacement products or prescription only medications obtained from their doctor.

Conclusions

This pilot study suggests that the Respiragene test for lung cancer susceptibility has utility as a tool for prompting and aiding smoking cessation, The effect of the Respiragene test on cessation reported here could be considered a trigger in the “3Ts” model of smoking cessation whereby triggers increase a smoker's motivational tension favouring quitting over continued smoking.

Relevant Publications

1. Chandler MA, Rennard SI. Smoking Cessation. *Chest* 2010; 137: 428-435.
2. Jolicoeur DG, Richter KP, Ahluwalia JS, et al. Smoking Cessation, smoking reduction, and delayed quitting among smokers given nicotine patches and a self-help pamphlet. *Subst Abuse* 2003; 24: 101-106.
3. Hilberink SR, Jacobs JE, Bottema BJAM, et al. Smoking cessation in patients with COPD in daily general practice (SMOCC): six months results. *Preventive Med* 2005; 41: 822-827.
4. Ferguson SG, Shiffman S, Gitchell JG, et al. Unplanned quit attempts – results from a US sample of smokers and ex-smokers. *Nicotine Tobacco Research* 2009; 11: 827-832.
5. Young RP, Hopkins RJ, Smith M, et al. Smoking Cessation: the potential role of risk assessment tools as motivational triggers. *Postgrad Med J* 2009; 86: 26-33.
6. West R, Sohal T. “Catastrophic” pathways to smoking cessation: Findings from national survey. *BMJ* 2006; 332:458-460.

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