Cytisine versus varenicline for smoking cessation for Māori and their whānau: Design and challenges

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Te Whare Wānanga o Tāmaki Makaurau

What is cytisine?

- A plant-based alkaloid
- Found in various plants from the Leguminosae plant family
  - Extracted from the Golden Rain tree (*Cytisus laburnum*) which is native to Europe but also grows in the southern parts of NZ
  - Found in a number of native NZ plants, e.g. Kōwhai (*Sophora tetraptera*)

How does it work?

- Works in a similar way to varenicline (Champix)
  - Structurally similar to nicotine
  - Affects the same receptors in the brain
  - Reduces the severity of nicotine withdrawal
  - If people do smoke, it reduces the reward and satisfaction people get from smoking (i.e. people no longer enjoy smoking if they try it)

Does it work?

Clinical trials have shown cytisine is

- Better than a placebo at helping people quit
- Better than the NZ Quitline service (NRT plus behavioural support) at helping people quit

Few side effects when used at the recommended dose

- Side effects tend to be mild and reversible
- No more side effects compared to a placebo
- Slightly more side effects compared to NRT
- e.g. nausea, headache, vivid dreams

Low cost and acceptable

- Cytisine vs NRT trial: 93% Māori, 89% non-Māori would recommend to a friend

[Walker et al. NEJM 2014: 371 (25)]

- Qualitative study
  - 2 focus groups, 8 interviews, 2 key informant
  - Given cytisine could potentially be derived from an indigenous plant, it could be viewed as related to rongoa rakau, with a whakapapa that connects it to Māori people, therefore a sense of Rangatiratanga over it.
  - If marketed in NZ it would need culturally relevant packaging and advertising

[Thompson-Evans et al. Nic Tob Res 2011: 13 (5): 353-60]

HRC-funded RAUORA Trial

- **Design:** A phase 3, pragmatic open label, randomised controlled non-inferiority clinical trial.

- **Aim:** To determine the effectiveness, safety and cost-effectiveness of cytisine compared to varenicline for smoking cessation.

- **Research question:** Is cytisine plus behavioural support at least as effective as varenicline plus behavioural support at increasing quit rates at six months?

Who can take part?

We need 2140 participants

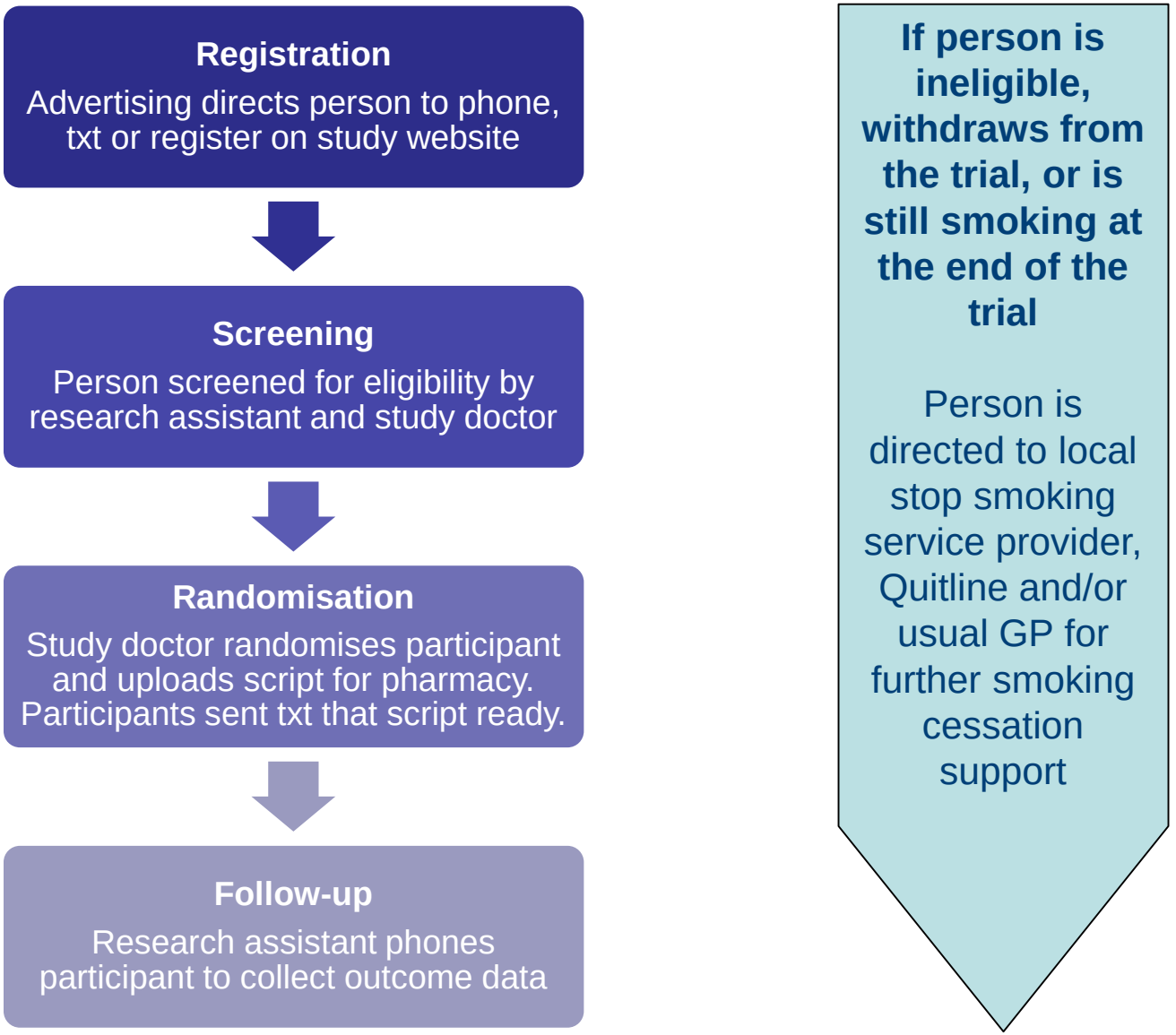
- Daily tobacco smokers
- Māori or whānau of Māori
- Reside in the Lakes DHB region
- Want to quit in the next two weeks
- ≥ 18 years of age
- Verbal consent
- Daily access to a mobile phone and/or email
- Access to the internet
- Eligible for subsidised varenicline under special authority

Intervention

- 12-week course of cytisine (Tabex) or varenicline (Champix)
- Behavioural support (Study Dr, local stop smoking service providers, cessation advisors)
- Quit day – day five

Days	Cytisine Dosage
1-3	One 1.5mg tablet every 2 hours through the waking day (up to 6 per day)
4-12	One 1.5mg tablet every 2.5 hours (up to 5 per day); designated Quit date is day five
13-16	One 1.5mg tablet every 3 hours (up to 4 per day)
17-20	One 1.5mg tablet every 4-5 hours (3 per day)
21-week 12	One 1.5mg tablet every 6 hours (2 per day)

Days	Varenicline Dosage
1-3	One 0.5mg tablet per day
4-7	One 0.5mg tablet twice a day; designated Quit date is day five
8-week 12	One 1.0mg tablet twice a day


Registration
Advertising directs person to phone, txt or register on study website
Screening
Person screened for eligibility by research assistant and study doctor
Randomisation
Study doctor randomises participant and uploads script for pharmacy. Participants sent txt that script ready.
Follow-up
Research assistant phones participant to collect outcome data
If person is ineligible, withdraws from the trial, or is still smoking at the end of the trial
Person is directed to local stop smoking service provider, Quitline and/or usual GP for further smoking cessation support

Main outcomes

Primary outcome

- Six-month continuous abstinence from smoking (not more than five cigarettes since quit date, biochemically verified)

Secondary outcomes (1, 3, 6, 12 months after quit date)

- Smoking abstinence
- Cigarette withdrawal and urge to smoke
- Cigarettes per day and smoking relapse
- Acceptability
- Medication adherence and compliance
- Measures of cost-effectiveness (i.e. quality of life and healthcare utilization)
- Adverse events

Challenges:

- SCOTT: preclinical data, exclusion criteria, extended treatment, adverse event reporting
- ETHICS: Zero cost requirement, non-Māori involvement
- CONSULTATION: GP, pharmacies, Iwi, Quitline, AE reporting, adverse event reporting
- CESSATION SERVICES: incentives, contract changes
- CHAMPIX ACCESS
- PHARMACIES: expired scripts

Challenges: Pharmacy payments

		Contract	Expectation		
		What we meant	Pharmacy 1	Pharmacy 2	Pharmacy 3
Admin fee	per participant	$10	$10	$10	$0
Varenicline	per script				
	Dispensing 1	$10	$10	$10	$20
	Dispensing 2	$0	$5	$10	$20
	Dispensing 3	$0	$0	$10	$20
		$20	$25	$40	$60
Admin fee	per participant	$10	$10	$10	$10
Cytisine	per script				
	Dispensing 1	$10	$13.50	$10	$0
	Dispensing 2	$0	$13.50	$10	$0
	Dispensing 3	$0	$13.50	$10	$0
		$20	$51	$40	$10

Our mission

RAUORA

Nau te kakahu i whatu.
He taniko taku.

To exceed people's expectations

- Build rapport
- Friendly, non-judgemental and empathetic
- Treat like our own whanau

Mary-Kaye Wharakura, Wetini Paul, Tina Lees, Brian Jones (absent)

To reach all communities within the region

https://rauora.nihi.auckland.ac.nz/

Supported by:

Kaitiaki:

- Dr Barry Smith — Lakes DHB
- Ngaroma Mala Grant — Manager, Te Arawa Whanau Ora
- Marita Ranclaud — Portfolio Manger, Mental Health and Addictions, Lakes DHB
- Yvonne Rogers — Smokefree Coordinator, Lakes DHB
- Eru George — Pou Herenga, Lakes DHB

NIHI Māori Research Advisory Group:

- Dr George Laking — Medical Oncologist, ADHB
- Dr Anna Rolleston — Department of Māori Health, UoA
- Endorsed by Professor Papaarangi Reid
  - Former Tumuaki, Faculty of Medicine and Health Sciences
  - Head of Department of Māori Health, UoA