Treating Anxiety after Stroke

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Anxiety affects around 20-25% of stroke

- Long-lasting, distressing and reduce quality of life

- Cochrane update on anxiety interventions after stroke 2017
  - 3 RCTs
  - High risk of bias & small sample size
# History of anxiety research

<table>
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Classical conditioning — I Pavlov

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1920
Little Albert experiments: Fear conditioning, stimulus generalisation — JB Watson & R Raynor

Little Peter experiments: Fear extinction & desensitisation — MC Jones

1924

1950s
Systematic desensitisation; stimulus hierarchy — J Wolpe

1960s
Operant conditioning in humans: contingent reward — O Lindsey

Cognitive model: Patient’s ‘inner dialogues’ — A Beck & A Ellis
1890s
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1970s
- Merging of cognitive + behavioural models -> Cognitive Behavioural Therapy

Randomized controlled trials

Systematic reviews & meta-analyses of RCTs

2008
- Exposure therapy for phobias (33 RCTs, 1193pts) — K Wolitzky-Taylor et al, Clinic Psych Rev

2011
- Drug treatment for GAD (27 RCTs) — D Baldwin et al, BMJ

2014
- CBT for GAD (42 RCTs, 2132pts) — P Cuijpers et al, Clin Psych Rev

2016
- Therapist-supported internet CBT for anxiety disorders 38 RCTs, 3214pts — J Olthuis et al, Cochrane Rev
Anxiety is primarily adaptive

• Anxiety is so unpleasant that we take measures to reduce it
  → reduce/ avoid threat

• Anxiety has helped us through learning and changing behaviour
  • Survival/ Growth/ Reproduction

• When excessive/ mis-associated, anxiety becomes maladaptive

Two main anxiety subtypes: phobic or generalized
Phobic disorder

Defined situation(s)

GAD

Worry about multiple things or ‘everything’

Cannot stop worrying

Experience anxiety/panic in feared situation, until anxiety goes away

E.g. agoraphobia

Defined situation(s)

Worry about multiple things or ‘everything’

Cannot stop worrying

Tense, nervous, shaky, dizziness, sweaty, breathless, chest tightness, impending catastrophe

Anxiety feelings
**Phobic disorder**

**Defined situation(s)**

Experience anxiety/panic in feared situation, until anxiety goes away

**Anxiety feelings**

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**GAD**

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**Defined situation(s)**

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Phobic disorder

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E.g. agoraphobia

exposure therapy
(gradient hierarchical exposure)

GAD

Worry about multiple things or ‘everything’

Cannot stop worrying

Anxiety feelings

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CBT (cognitive restructuring/ problem solving)
and/or medications

e.g. SSRIs; short-term benzodiazepines
Conceptual problem in anxiety after stroke research

In stroke anxiety research (observational and intervention studies)

• Anxiety as a unitary phenomenon, without subtyping

• Anxiety after stroke = GAD?

• Reflected by the widespread use of anxiety screening tools in research that are only valid for GAD
  
  e.g. HADS-Anxiety subscale
Phobic disorder was the predominant anxiety subtype at 3 months post-stroke/TIA

Prospective cohort n = 175
Anxiety-provoking situations/ stimuli after stroke (38/175 with anxiety disorder)

1) Travelling more than a distance from home - 71%
2) Going out of the house alone - 58%
3) Going into crowded place - 76%
4) Using public transport - 53%
5) Standing in a queue - 37%
6) Situations with other people e.g. speaking, eating - 32%
7) Physical exertion - 26%
8) Being alone at home - 32%
9) Headaches - 18%
10) Stroke recurrence - 82%
11) Falling - 47%
Anxiety is associated with disability, poorer quality of life and restricted participation

- Anxious patients are more disabled
  - Modified Rankin Scale

- Anxious patients have poorer health-related quality of life
  - Scored worse on EuroQoL5D 5L and Visual Analog Scale

- Anxious patients are more restricted in work and social activities
  - Scored worse on Work and Social Adjustment Scale
Who are more likely to be anxious after stroke/TIA?

- Younger
- Have a past history of depression or anxiety before stroke/TIA
- Not statistically significant
  - Women v men
  - Living alone before stroke
Treating Anxiety after Stroke

- Situation
- Thoughts
- Feelings of anxiety
- Bodily feelings
- Actions/behaviours
Feasibility and piloting

Development

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Implementation

Evaluation

Adapted from the MRC framework on developing and evaluating a complex intervention, 2009 & 2015
A web-based telephone-guided CBT for anxiety after stroke

The TASK research team

Chief investigator of the TASK trial
Dr Yvonne Chun
Clinical research fellow & stroke physician registrar in NHS Lothian
University profile
Centre for Clinical Brain Sciences, University of Edinburgh

Co-investigators

Dr Alan Carson
Honorary reader & consultant neuropsychiatrist at NHS Lothian,
Clinical director of Scottish Acquired Brain Injury Network
University profile
Centre for Clinical Brain Sciences, University of Edinburgh

Dr William Whiteley
Senior research fellow, consultant neurologist & stroke physician at NHS Lothian
University profile
Centre for Clinical Brain Sciences, University of Edinburgh

Professor Martin Dennis
Professor of stroke medicine & consultant stroke physician at NHS Lothian
University profile
Centre for Clinical Brain Sciences, University of Edinburgh

Professor Gillian Mead
Professor of stroke medicine & elderly care medicine at NHS Lothian
University profile
Centre for Clinical Brain Sciences, University of Edinburgh

The TASK research team:
TASK mobile: 0745 320 7061
Email: task.trial@ed.ac.uk
Address: Centre for Clinical Brain Sciences, Chancellor's Building, 49 Little France Crescent, Edinburgh, EH16 4SB
Dear participant

Thank you for taking part in the TASK trial

My name is Dr Yvonne Chun

I am a stroke doctor and a researcher in Edinburgh

In the coming weeks I will be guiding you through your TASK treatment

Feel free to browse the TASK treatment website

Please watch this video to find out how TASK is going to help you overcome anxiety after stroke

Dr Yvonne Chun
**Randomization**

**Group 1**
- **TASK-CBT**
  - Website + 6 telephone therapy sessions + online tasks + ongoing access to website

**Group 2**
- **TASK-Relax**
  - 1 website + telephone at the start to give instructions + online tasks + ongoing access to website

**Weekly text reminders & useful links**

**Data collection (T0)**

**Data collection (T1):**

**Data collection (T2):**

**User feedback**

**Protocol version**

**Feedback to participants on results**

**TASK**
Treating Anxiety after Strokes
Stepped-care model of delivering psychological intervention for anxiety after stroke

1. Recognition of psychological problem
2. Low intensity psychological intervention e.g. guided self-help, cCBT, psychoeducational groups
Stepped-care model of delivering psychological intervention for anxiety after stroke

Step 1: Recognition of psychological problem

Step 2: Low intensity psychological intervention
e.g. guided self-help, cCBT, psychoeducational groups

Step 3: Refractory/severe cases

High intensity psychological intervention by specialists
(psychiatrist/clinical psychologist)

Symptom monitoring
Stepped-care model of delivering psychological intervention for anxiety after stroke

**Step 1:**
Recognition of psychological problem

**Step 2:**
Low intensity psychological intervention
e.g. guided self-help, cCBT, psychoeducational groups

**Step 3:**
Refractory/severe cases

- High intensity psychological intervention by specialists
  (psychiatrist/clinical psychologist)

- Symptom monitoring
Psychological support post-stroke: inadequate and a priority

RCP Stroke guideline (5th edition) 2017

‘National audits (SSNAP) continue to highlight inadequate service provision’

‘Surveys of the long term needs of people with stroke echo the need for service improvement’

Scottish Stroke Care Audit Priority 7. Transition to the community

‘Access to specialist clinical/ neuropsychological services’

‘available to all patients who require specialised psychological assessment and intervention for the emotional and cognitive consequences of stroke’
Thank you for listening